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# FLORA DEVONIENSIS.



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FLORA DEVONIENSIS:

OR A 53

DESCRIPTIVE CATALOGUE OF PLANTS

GROWING WILD

IN THE COUNTY OF DEVON,

ARRANGED BOTH ACCORDING TO

THE LINNÆAN AND NATURAL SYSTEMS,

WITH AN

ACCOUNT OF THEIR GEOGRAPHICAL DISTRIBUTION, &c.

BY THE

REV. J. P. JONES AND J. F. KINGSTON.



LONDON:

LONGMAN, REES, ORME, BROWN, AND GREEN,  
PATERNOSTER-ROW.  
1829.

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19133. l. 3



TO

THE HON. AND REV. WILLIAM ANNESLEY, A.M.

THE FOLLOWING WORK

IS DEDICATED,

WITH EVERY FEELING OF ESTEEM AND REGARD,

BY HIS OBLIGED FRIENDS,

J. P. JONES,  
J. F. KINGSTON.





## PREFACE.

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IN presenting the public with a *Flora* of one of the largest counties in the kingdom—a county distinguished by the extent of its coasts, the variety of its soils, and the diversity of its surface—a work complete in every respect in this the first attempt to illustrate its Botany on an extended scale, can scarcely be expected. It will, however, be satisfactory to those who are engaged in botanical pursuits to know, that the following pages have been the result of many years diligent and continuous investigation; and that they have been enriched by the valuable contributions of many excellent Botanists residing in different parts of the county, who have felt a laudable anxiety that the work should be as complete as the present state of our knowledge would permit; though, in a subsequent edition, it is not improbable that a few plants, even amongst

the Phænogamous classes, may still have to be added, as well as additional habitats for some of the rarer and more local of those already ascertained and described as natives of the county : and we flatter ourselves with the hope that the present attempt will increase the attention already bestowed on our local Botany, and form a nucleus for the arrangement and publication of future discoveries, as it is only by the concentrated exertions of different individuals that the Flora of a large district can be completed.

On the present occasion a great degree of liberality has been experienced, and to the various communications with which we have been favoured the names of the contributors have been carefully affixed. In the majority of instances the habitats have been carefully verified by ourselves, and in others the communications have been kindly accompanied by specimens of the plants : a few habitats have also been taken from other publications, whenever the authority has been considered sufficiently good to merit attention ; but we have throughout the work been anxious not to admit a single plant the identity or locality of which had not been ascertained on adequate authority.

The northern portion of the county is that in the

illustration of which the present work will be found most deficient. Future exertions will, we trust, enable us to supply the defect; but at present it is to be regretted, that (with the exception of its coastline,) the north of Devon has been by no means so fully investigated as it deserves.

The work is divided into two parts, the first exhibiting the Linnæan, the second the Natural method of arrangement: under the latter, the different orders of the Cryptogamous plants will be found carefully distributed according to the latest investigations and discoveries; and (with the exception of two or three of the orders, including the minute parasitic Fungi and some of the fresh-water Algæ, the present state of the science respecting which permits only an outline, though, we trust, a tolerably firm and correct one is given,) fully enumerated and described. A minute attention has been paid to the essential characters of the genera and species, and any thing like repetition or superfluous observations studiously avoided. The references have also been limited as much as possible to a few of the best and most accessible works on the subject, and have only occasionally been increased where any confusion or discrepancy in the names or descriptions seems to have obviously required it; so



that we trust the arrangement of the whole has been rendered as simple and concise as it well could be, without incurring the charge of deficiency or obscurity.

To complete the subject, the relative proportions of the different natural families, and their geographical distribution in the county, have been added at the end of the second part.

*June 1st, 1829.*

# **PART I.**

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## **ARRANGEMENT OF THE PLANTS**

**ACCORDING TO**

**THE LINNÆAN SYSTEM.**



# ARRANGEMENT OF THE PLANTS

ACCORDING TO THE

## LINNÆAN SYSTEM.

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### CLASSES AND ORDERS.

- I. **MONANDRIA**, 1 stamen in each flower.
- II. **DIANDRIA**, 2 stamens.
- III. **TRIANDRIA**, 3 stamens.
- IV. **TETRANDRIA**, 4 stamens, (all of equal length.)
- V. **PENTANDRIA**, 5 stamens, (the anthers distinct.)
- VI. **HEXANDRIA**, 6 stamens, (all of equal length.)
- VII. **HEPTANDRIA**, 7 stamens. (Devonshire furnishes no example of this class.)
- VIII. **OCTANDRIA**, 8 stamens.
- IX. **ENNEANDRIA**, 9 stamens.
- X. **DECANDRIA**, 10 stamens, (filaments distinct.)
- XI. **DODECANDRIA**, 12 or more stamens springing from the receptacle.
- XII. **ICOSANDRIA**, about 20 springing from the perianth.
- XIII. **POLYANDRIA**, stamens numerous, springing from the receptacle.
- XIV. **DIDYNAMIA**, 4 stamens, 2 of them longer than the rest. (Never more than 1 pistil.)
- XV. **TETRADYNAMIA**, 6 stamens, 4 of them longer than the rest. (Never more than 1 pistil.)
- XVI. **MONADELPHIA**, all the filaments more or less united. (The anthers free.)
- XVII. **DIADELPHIA**, filaments forming 2 sets. (Flowers papilionaceous.)
- XVIII. **POLYADELPHIA**, filaments forming more than 2 sets.
- XIX. **SYNGENESIA**, 5 stamens, the anthers united. (Compound flowers.)
- XX. **GYNANDRIA**, stamens springing from the germen or style.
- XXI. **MONECIA**, stamens and pistils in different flowers on the same plant.
- XXII. **DIOECIA**, stamens and pistils distinct, and each confined exclusively to the flowers of distinct plants.
- XXIII. **POLYGAMIA**, stamens and pistils in the same flower, or stamens only or pistils only. The whole on one or on distinct plants.
- XXIV. **CRYPTOGAMIA**, plants destitute of stamens and pistils.

In the first 13 Classes, and also in the 16th, 17th, 18th, and 20th, the Orders depend entirely on the number of pistils, and according as they contain 1, 2, 3, &c. or many, are named *Monogynia*, *Digynia*, *Trigynia*, *Tetragynia*, *Pentagynia*, *Hexagynia*, *Heptagynia*, *Octogynia*, *Enneagynia*, *Decagynia*, *Dodecagynia*, and *Polygynia*.

The 14th Class, *Didynamia*, contains two Orders.

1. *Gymnospermia* ; the seeds naked, usually 4, (never more than that number.)
2. *Angiospermia* ; the seeds enclosed in a pericarp.

The 15th Class, *Tetradynamia*, contains two Orders, characterized by the form of the seed vessel.

1. *Siliculosa* ; the seed vessel in the form of a *Silicula* or pouch, (the breadth equal to the length.)
2. *Siliquosa* ; the seed vessel in the form of a *Siliqua*, or long pod, (of greater length than breadth.)

The 19th Class, *Syngenesi*, contains five Orders.

1. *Polygamia equalis* ; all the florets of a compound head, perfect, viz. each containing stamens and pistils.
2. *Polygamia superflua* ; florets of the disk perfect ; those of the circumference with a pistil only.
3. *Polygamia frustranea* ; florets of the disk perfect ; those of the circumference of an abortive pistil, or none.
4. *Polygamia necessaria* ; florets of the disk with stamens only ; those of the circumference with a pistil only.
5. *Polygamia segregata* ; when in a compound flower, besides the common perianth, each floret is furnished with a particular calyx. (Our Flora furnishes no example of this Order.)

In the 21st and 22d Classes, viz. *Monacia* and *Diacia*, the characters of the former Classes are adopted to distinguish the Orders, which are named accordingly, *Monandria*, &c. *Monadelphia*, *Gynandria*, &c.

In the 23d Class, *Polygamia*, there are three Orders.

- Monacia* ; two, or all the different kinds of flowers, on the same plant.
- Diacia* ; two, or all the different kinds of flowers, distinct, and on two separate plants.
- Triacia* ; the three different kinds of flowers each on distinct plants.

The Orders of the 24th Class will be described in a different part of the volume.

## ARRANGEMENT OF THE GENERA.

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### I. MONANDRIA.

#### I. MONOGYNIA.

1. SALICORNIA. Perianth ventricose, fleshy, entire. Stam. 1 or 2. Fr. (Utricle\*) included in the enlarged perianth.—P. 1.

(*Chara*, CRYPT.; *Zostera*, MONÆC.; *Valeriana rubra*, TRIAND.; *Alchemilla arv.* TETR.)

#### II. DIGYNIA.

(*Callitriche*, MONÆC.)

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### II. DIANDRIA.

#### I. MONOGYNIA.

2. LIGUSTRUM. Cal. 4-toothed. Cor. regular, 4-cleft. Berry 2-celled, 4-seeded.—P. 1.
3. FRAXINUS. Perianth 0. Fr. (Samara†) 2-celled, 2-seeded. (Fl. polygamous.)—P. 2.
4. CIRCÆA. Cal. 2-leaved. Cor. 2-petalled. Caps. 2-celled, cells 1-seeded.—P. 2.
5. VERONICA. Cal. 4-cleft. Cor. rotate, 4-cleft, the lower segment narrower. Caps. 2-celled.—P. 2.

\* A thin pericarp, more or less closely investing a single seed. *Coryopsis* and *Achenium*, which is the sort of fructification of the grasses *Carices*, and some others, are varieties of this.

† *Samara*, a winged pericarp or seed-vessel, containing 1, or at most 2 seeds.

6. **PINGUICULA.** Cal. 4 or 5-cleft. Cor. ringent, spurred. Caps. 1-celled.—P. 4.
7. **UTRICULARIA.** Cal. 2-leaved. Cor. personate, spurred. Caps. 1-celled, opening with a circular fissure.—P. 4.
8. **LEMNA.** Perianth single, urceolate. Utricle oblong, compressed, emarginate, 1-5-seeded. (Minute frondose plants.)—P. 4.
- (*Salicornia*, MONAND.; *Schœnus albus*, TRIAND. MONOG.; *Lycopus* and *Salvia*, DIDYN. GYMNOS.; *Lepidium ruderale*, and *Coronopus didyma*, TETRAND.)

## II. DIGYNIA.

(*Anthoxanthum*, and *Bromus diandrus*, TRIAN. DIGYN.)

## III. TRIANDRIA.

### I. MONOGYNIA.

a. Flowers superior, petaloid.

9. **VALERIANA.** Cal. involute, unfolding into a feathery pappus. Cor. 5-cleft, gibbous, or spurred at the base. Seed 1.—P. 5.
10. **FEDIA.** Cal. toothed, persisting. Cor. 5-cleft, gibbous at the base. Fruit 3-celled, 2 generally abortive.—P. 6.
11. **IRIS.** Perianth single, 6-cleft, the alternate segments reflexed. Stigma petaliform.—P. 6.

b. Perianth inferior, glumaceous.

12. **SCHÆNUS.** Cal. glumes 1-valved, imbricated on all sides, the outer ones smaller, sterile. Cor. 0. Achenium naked, or bristled at its base.—P. 6.
13. **SCIRPUS.** Cal. glumes 1-valved, 1-flowered, imbricated on all sides, all fertile, (1 or 2 of the outer occasionally sterile.) Cor. 0. Achenium with bristles at the base.—P. 7.

14. **ERIOPHORUM.** Cal. glumes 1-valved, 1-flowered, imbricated on all sides. Cor. 0. Achenium with long silky hairs, springing from the base.—P. 9.
15. **NARDUS.** Cal. 0. Cor. glume 2-valved.—P. 9.

## II. DIGYNIA.

*a.* Calyx 1-flowered.*τ.* Cor. 1-valved.

16. **ALOPECURUS.** Cal. valves acute, united at the base. Cor. awned at the base.—P. 10.

*ττ.* Cor. 2-valved.

17. **PHLEUM.** Cal. valves mucronate. Cor. valves awnless, included. Seed free.—P. 11.
18. **ANTHOXANTHUM.** Cal. valves acute, unequal. Cor. double, ext. awned, int. small, awnless. (Fl. diandrous.)—P. 10.
19. **PHALARIS.** Cal. valves subequal, carinate. Cor. double, included. Seed \* invested by the inner cor.—P. 11.
20. **MILIUM.** Cal. ventricose. Cor. single, investing the seed.—P. 11.
21. **AGROSTIS.** Cal. valves acute, compressed, awnless. Cor. shorter, slightly hairy at the base. Seed free.—P. 12.
22. **ARUNDO.** Cal. (in *A. phragmites* only, many-flowered.) Cor. surrounded with long hairs. Seed free.—P. 13.
23. **ROTTBOLLIA.** Cal. valves lateral, alternate, on a jointed rachis.—P. 24.
24. **HORDEUM.** Cal. in threes, valves lateral, the intermediate ones perfect, lateral ones imperfect. Cor. awned.—P. 24.

*b.* Calyx 2 or (rarely) 3-flowered.

25. **AIRA.** Cal. including 2 perfect florets only. Cor. outer valve mostly awned. Seed free.—P. 14.
26. **MELICA.** Cal. 2-flowered, with the rudiments of a third

\* More strictly speaking, we should say *fruit*, which in all the grass tribe is of the kind called a *caryopsis*, in which the seed is so closely united with the pericarp as to form apparently but one piece with it.



intermediate one. Cor. awnless. Seed covered by the cor.—P. 15.

27. *HOLCUS*. Cal. with 2 polygamous florets, the antheriferous floret awned. Seed free.—P. 13.

c. Calyx many-flowered.

τ. Calyx 1-valved.

28. *LOLIUM*. Cal. lateral, fixed. Cor. valves lanceolate.—P. 23.

τ τ. Calyx 2-valved.

29. *TRIODIA*. Cal. valves lanceolate, acute. Cor. ext. valve 3-toothed; int. obtuse, entire.—P. 17.

30. *POA*. Cor. valves ovate, sub-acute, awnless. Seed free.—P. 15.

31. *BRIZA*. Cor. ventricose, valves cordate, obtuse. Seed adnate with the cor.—P. 18.

32. *DACTYLIS*. Cal. valves unequal, the larger one keeled. Cor. awnless. Seed adnate with the hardened cor.—P. 18.

33. *ELYMUS*. Fl. on a rachis. Cal. lateral, in pairs, valves sub-equal. Cor. valves lanceolate, ext. one acuminate, or awned.—P. 23.

34. *FESTUCA*. Cal. valves unequal. Cor. valves lanceolate, ext. one acuminate, or awned.—P. 18.

35. *TRITICUM*. Rachis flexuose, toothed. Cal. valves sub-equal. Cor. ext. valve acuminate, or awned.—P. 22.

36. *BROMUS*. Cor. valves lanceolate, ext. one awned below the apex, int. one fringed.—P. 20.

37. *AVENA*. Cor. valves lanceolate, ext. with a twisted awn on the back.—P. 22.

38. *CYNOSURUS*. Cal. with a pectinate involucre at the base. Cor. valves linear-lanceolate.—P. 18.

### III. TRIGYNIA.

39. *MONTIA*. Cal. 2-leaved. Cor. 1-petalled. Caps. 3-valved, 3-seeded.—P. 24.

40. *POLYCARPON*. Cal. 5-leaved. Cor. 5-petalled. Caps. 3-valved, many seeded.—P. 24.

## IV. TETRANDRIA.

## I. MONOGYNIA.

*a.* Perianth double.

τ. Flowers monopetalous, superior, 1-seeded.

41. *DIPSACUS*. Involucre many-leaved. Cal. double, int. one cup-shaped, entire. Fr. angular, crowned with the double cal.—P. 25.
42. *SCABIOSA*. Inv. many-leaved. Cal. double, int. one bristly. Fr. crowned with the enlarged double cal.—P. 25.

τ τ. Fl. monopetalous, superior, 2-seeded.

43. *RUBIA*. Cor. campanulate. Fr. a berry.—P. 27.
44. *GALIUM*. Cor. rotate, 4-cleft. Fr. a dry nut, crowned with the cal.—P. 26.
45. *ASPERULA*. Cor. funnel-shaped. Fr. not crowned.—P. 26.
46. *SHERARDIA*. Cor. funnel-shaped. Fr. crowned.—P. 26.

τ τ τ. Fl. monopetalous, inferior.

47. *EXACUM*. Cor. salver-shaped. Caps. 2-celled, many-seeded, opening at top.—P. 28.
48. *PLANTAGO*. Cor. 4-cleft, segments reflexed. Stam. very long. Fr. (Pyxis) 2-celled, 2 or many-seeded.—P. 28.
49. *CENTUNCULUS*. Cor. tubular, 4-cleft. Stam. short. Fr. (Pyxis) 1-celled, many-seeded.—P. 29.

τ τ τ τ. Fl. with 4 petals.

50. *CORNUS*. Cor. superior. Nut of the drupe, 2-celled, 2-seeded.—P. 29.

*b.* Perianth single.

51. *PARIETARIA*. Per. inferior, 4-cleft. Filam. elastic. Fr. 1-seeded, inclosed in the enlarged perianth, (one or two of the central florets have only pistils.)—P. 29.
52. *ALCHEMILLA*. Per. inferior, 8-cleft, the 4 outer segments smaller. Achenium inclosed in the persisting perianth.—P. 29.

53. *SANGUISORBA*. Per. superior, 4-lobed, coloured, bracteated at the base. Achenia 1 or 2, immersed in the persisting tube of the perianth.—P. 29.

## II. DIGYNIA.

(*Cuscuta*, PENT. DIGY.)

## III. TETRAGYNIA.

54. *ILEX*. Cor. rotate, 4 or 5-cleft. Stig. sessile. Berry with four 1-seeded nuts, (some flowers have anthers only.)—P. 30.
55. *SAGINA*. Cal. 4-leaved. Cor. 4-petalled. Caps. 1-celled, 4-valved.—P. 31.
56. *MÆNCHIA*. Cal. 4-leaved. Cor. 4-petalled. Caps. 1-celled, opening with several teeth at the apex.—P. 32.
57. *RADIOLA*. Cal. many-cleft. Cor. 4-petalled. Caps. 8-valved, 8-celled.—P. 32.
58. *POTAMOGETON*. Perianth single, 4-leaved. Anthers sessile. Nuts 4, sessile, 1-seeded.—P. 30.
59. *RUPPIA*. Perianth 0. Nuts 4, pedicellate.—P. 31.  
(*Cerastium tetrandrum*, DECAND. PENT.)

## V. PENTANDRIA.

### I. MONOGYNIA.

a. Fl. monopetalous.

τ. Fl. inferior, with four 1-seeded nuts.

60. *ECHIU*M. Cor. irregular, orifice naked. Stig. bipartite.—P. 35.
61. *PULMONARIA*. Cal. prism-shaped. Cor. infundibuliform, orifice naked.\*
62. *LITHOSPERMUM*. Cal. not prism-shaped. Cor. infundibuliform, orifice naked.—P. 33.
63. *SYMPHYTUM*. Cor. ventricose, orifice closed with subulate scales.—P. 34.
64. *BORAGO*. Cor. rotate, orifice closed by 5 obtuse, emarginate teeth.—P. 35.

\* Vide the Second Part of this work.

65. *LYCOPSIS*. Cor. infundibuliform, tube curved, orifice closed with convex scales.—P. 35.
66. *CYNOGLOSSUM*. Cor. shortly infundibuliform, orifice closed with convex scales. Nuts fixed to the base of the style.—P. 34.
67. *ANCHUSA*. Cor. infundibuliform, orifice closed with convex scales. Nuts with a cavity at the base.—P. 34.
68. *MYOSOTIS*. Cor. hypocrateriform, the segments very obtuse, orifice closed with short connivent scales. Nuts imperforate at the base.—P. 32.

ττ. Fl. inferior; seeds in a capsule.

69. *ANAGALLIS*. Cor. rotate. Stam. hairy. Caps. bursting all round transversely.—P. 36.
70. *LYSIMACHIA*. Cor. rotate. Caps. 1-celled, 10-valved.—P. 36.
71. *PRIMULA*. Cor. hypocrateriform, the tube cylindrical, orifice naked. Stigma globose. Caps. 1-celled, opening with 10 teeth at the apex.—P. 35.
72. *MENYANTHES*. Cor. hairy. Stigma 2-cleft. Caps. 1-celled, 2-valved.—P. 36.
73. *HYOSCYAMUS*. Cor. infundibuliform, irregular. Stigma capitate. Caps. 2-celled, operculate.—P. 40.
74. *VERBASCUM*. Cor. rotate, irregular. Stam. declined, mostly hairy. Caps. 1-celled, 2-valved.—P. 39.
75. *ERYTHRÆA*. Cor. infundibuliform, the limb short. Anthers after flowering spirally twisted. Style erect. Stigmas 2. Caps. linear, 2-celled.—P. 41.
76. *CONVOLVULUS*. Cor. campanulate, plicate. Stig. 2. Caps. 2-3-celled, 2-3-valved. Cells mostly 2-seeded.—P. 37.
77. *VINCA*. Cor. hypocrateriform, twisted. Follicles 2, erect. Seeds naked.—P. 43.
78. *SOLANUM*. Cor. rotate. Anthers opening with 2 pores at the extremity. Berry 2-celled.—P. 40.

τττ. Fl. superior.

79. *SAMOLUS*. Cor. hypocrateriform, 5-lobed. Lobes with small, intermediate scales. Caps. half inferior, 1-celled, 5-valved above.—P. 41.

80. **JASIONE.** (Fl. aggregate on a common receptacle.) Cor. rotate, 5-cleft. Anthers united at the base. Stigma clavate. Caps. 2-celled, opening at the top.—P. 38.
81. **LOBELIA.** Cor. irregular, cleft on the upper side longitudinally. Anthers united in a tube. Stig. simple. Caps. 2-3 celled.—P. 38.
82. **CAMPANULA.** Cor. campanulate. Filam. broader at the base. Stig. 3-cleft. Caps. 3-5-celled, laterally perforate.—P. 37.
83. **LONICERA.** Cor. irregular. Berry 1-3-celled. Cells many-seeded.—P. 41.

b. Fl. polypetalous.

τ. Fl. inferior.

84. **RHAMNUS.** Cal. urceolate, 4-5-cleft. Berry 2-3-celled, 2-4-seeded.—P. 42.
85. **EUONYMUS.** Cal. plane, 4-5-cleft. Caps. 5-angled, 5-celled, 5-valved. Seeds covered by a cup-like arillus.—P. 42.
86. **VIOLA.** Cal. 5-cleft, the segments produced at the base. Cor. irregular, upper petal spurred at the base. Anthers connate. Caps. 1-celled, 3-valved.—P. 38.

τ τ. Fl. superior.

87. **RISES.** Cal. 5-cleft, bearing the petals and stamens. Style bifid. Berry 1-celled, many-seeded.—P. 42.
88. **HEDERA.** Cal. 5-toothed. Petals broader at the base. Style simple. Berry 5-seeded, crowned by the cal.—P. 43.

c. Fl. incomplete.

89. **GLAUX.** Per. single, 5-lobed, coloured, inferior. Caps. globose, 1-celled, 5-valved, 5-seeded.—P. 43.
90. **ILLECEBRUM.** Per. cartilaginous, 5-parted, inferior. Caps. 5-valved, 1-seeded, inclosed in the connivent cal.—P. 43.

## II. DIGYNIA.

τ. Perianth single.

91. **SALSOLA.** Per. inferior, 5-cleft, persistent, enveloping the fruit with its base, and crowning it with its scarioso limb. Seed single.—P. 45.

92. *CHENOPODIUM*. Per. inferior, 5-cleft, persistent, partly covering the seed. Seed single, roundish.—P. 44.

93. *BETA*. Per. half inferior, 5-cleft, persistent; seed single, reniform, imbedded in the fleshy base of the perianth.—P. 45.

94. *ULMUS*. Per. inferior, persistent, 4-6-cleft; caps. membranaceous, compressed, 1-seeded.—P. 46.

(*Scleranthus*, DECAND.)

τ τ. Perianth double. Cor. monopetalous, inferior.

95. *GENTIANA*. Cor. campanulate, or infundibuliform, tubular at the base, destitute of nectariferous pores. Caps. 1-celled, 2-valved.—P. 46.

96. *CUSCUTA*. Cor. campanulate, 4-5-lobed. Caps. 2-celled. Cells 2-seeded, bursting all round transversely.—P. 46.

τ τ τ. Perianth double. Cor. 5-petalled, superior. Seeds 2. (*Umbellatae*.)

a. Umbels irregular. Fl. capitate.

97. *ERYNGIUM*. Fl. sessile. Recept. chaffy. Fr. bristly. P. 47.

98. *HYDROCOTYLE*. Fl. on a simple imperfect umbel. Pet. equal, entire. Fr. compressed.—P. 47.

99. *SANICULA*. Fl. in capitate umbellules, polygamous. Fr. covered with hooked bristles.—P. 47.

b. Umbels regular.

τ. With involucre and involucella.

100. *TORILIS*. Inv. undivided. Fl. equal. Fr. ovate, ribbed, clothed with bristles.—P. 47.

101. *DAUCUS*. Involucre pinnatifid. Fl. sub-radiate. Fr. oblong, with 5 muricate ribs, their intervals bristly.—P. 48.

102. *BUNIUM*. Involucella of many setaceous leaves. Fl. equal. Fr. oblong, with acute ribs, their intervals tuberculate.—P. 48.

103. *CONIUM*. Involucella 3-leaved, dimidiate. Petals sub-equal. Fr. ovate, with 5 obtuse, crenulate ribs, their intervals plane.—P. 49.

104. *BUPLEURUM*. Involucella 5-leaved, ovate. Pet. involute. Fr. compressed, striated.—P. 49.

105. **PEUCEDANUM**. Involucella very short, setaceous. Fl. polygamous. Fr. compressed, striate, bordered.—P. 49.
106. **CRITHMUM**. Cal. entire. Pet. equal, entire, broadest at the base. Fr. oval, striate.—P. 49.
107. **HERACLEUM**. Involucres and involucella deciduous. Fl. radiate. Pet. bifid. Fr. compressed, with a membranaceous margin, and dorsal obtuse ribs.—P. 49.
108. **ANGELICA**. Fl. equal, entire. Fr. subcompressed, with acute winged ribs, their intervals sulcate.—P. 50.
109. **Sium**. Involucre (mostly) many-leaved. Umbels many-rayed. Fr. sub-oval, laterally compressed, striate.—P. 50.
110. **SISON**. Involucre 1-4 leaves. Umbel of few rays. Fr. ovate, striate.—P. 50.
111. **ŒNANTHE**. Fl. radiate, polygamous. Fr. prism-shaped, ribbed, crowned by the calyx and styles.—P. 51.

τ τ. With involucella only.

112. **PHELLANDRIUM**. Fl. equal, all fertile. Fr. ovate, smooth, ribbed, crowned by the cal. and styles.—P. 52.
113. **ÆTHUSA**. Involucella 3-leaved, dimidiate, deflexed. Fr. ovate, with acute ribs.—P. 52.
114. **SCANDIX**. Involucella cut, or pinnate. Fr. oblong, with a long scabrous beak.—P. 52.
115. **ANTHRISCUS**. Styles persistent. Fr. ovate, hispid, with a short glabrous beak.—P. 52.
116. **CHÆROPHYLLUM**. Involucella of about 5 concave, reflexed leaves. Fr. linear, oblong, glabrous, smooth or striate.—P. 52.

τ τ τ. With neither.

117. **SMYRNIUM**. Fl. central ones barren. Fr. roundish, gibbous, ribbed. Seeds reniform, angular.—P. 53.
118. **ANETHUM**. Fl. all fertile. Fr. oblong, subcompressed, with 3 ribs on each side.—P. 53.
119. **PIMPINELLA**. Fl. sub-equal. Styles erect. Stigmas globose. Fr. ovate, glabrous, with obtuse ribs, their intervals subconvex.—P. 53.

120. *APIUM*. Fl. equal. Styles reflexed. Fr. roundish, with obtuse ribs, their intervals plane.—P. 54.  
 121. *ÆGOPODIUM*. Fl. unequal. Stigmas simple. Fr. ovate, oblong, ribbed.—P. 54.

NOTE.—In attending to the above subdivisions of this natural family, it must be remembered, that in *Torilis infesta*, *Bunium bulbosum*, *Angelica sylvestris*, *Sium nodiflorum*, *Sison inundatum*, and *Cenanthe fistulosa*, the involucre is often wanting; and that in *Heracleum*, both involucre and involucella are deciduous.

### III. TRIGYNIA.

122. *VIBURNUM*. Fl. superior. Cor. monopetalous, 5-lobed. Berry 1-seeded.—P. 54.  
 123. *SAMBUCUS*. Fl. superior. Cor. monopetalous, 5-lobed. Berry 3-seeded.—P. 55.  
 124. *CORRIGIOLA*. Fl. inferior. Cor. 5-petalled. Utricle 3-sided.—P. 55.

(*Stellaria media*, DECAND. TRIGYN.)

### IV. PENTAGYNIA.

125. *LINUM*. Cor. 5-petalled. Caps. 10-valved, 10-celled. Seeds ovate, compressed.—P. 56.  
 126. *STATICE*. Cal. monophyllous, infundibuliform, scarious, plicate. Cor. 5-petalled. Seed 1, invested by the cal.—P. 55.

### V. HEXAGYNIA.

127. *DROSERA*. Cor. 5-petalled. Caps. 1-celled, 3-5 valved, many-seeded.—P. 56.

### VI. POLYGYNIA.

128. *MYOSURUS*. Cal. 5-sepalled, prolonged at the base. Cor. 5-petalled, their claws tubular. Fr. (*cariopsides*) collected on a long receptacle.—P. 57.

## VI. HEXANDRIA.

### I. MONOGYNIA.

τ. Fl. with an inferior, double perianth.

129. *BERBERIS*. Cal. 6-leaved. Cor. 6-petalled. Berry 2-seeded.—P. 63.



130. *PEPLIS*. Cal. 12-cleft, the segments alternately smaller. Cor. 6-petalled, (often wanting.) Caps. 2-celled.—P. 63.

τ τ. Fl. spathaceous.

131. *GALANTHUS*. Per. superior, 6-leaved, the 3 inner ones shorter, emarginate.—P. 57.  
 132. *NARCISSUS*. Per. superior, 6-leaved. Nectary campanulate, including the stamens.—P. 57.  
 133. *ALLIUM*. Per. inferior, of 6 ovate, sessile leaves. (Fl. umbellate.)—P. 57.

τ τ τ. Fl. with a single, inferior perianth ; not spathaceous.

134. *HYACINTHUS*. Per. tubular, persistent, 6-partite. Stam. filiform. Caps. 3-celled.—P. 58.  
 135. *ASPARAGUS*. Per. 6-partite. Stigmas 3. Berry 3-celled.—P. 59.  
 136. *NARTHECIUM*. Per. of 6 patent leaves. Stam. hairy. seeds appendiculate at each end.—P. 59.  
 137. *ORNITHOGALUM*. Per. of 6 leaves. Stam. dilated at the base.—P. 58.  
 138. *SCILLA*. Per. of 6 spreading deciduous leaves. Stam. filiform, glabrous. Seeds spherical.—P. 59.  
 139. *TULIPA*. Per. campanulate, 6-leaved. Style 0. Seeds plane.—P. 58.  
 140. *ACORUS*. Spadix many-flowered. Per. 6-leaved. Style 0. Seeds roundish.—P. 59.  
 141. *JUNCUS*. Per. glumaceous, 6-leaved. Caps. 3-valved, 3-celled, cells many-seeded. (Leaves mostly roundish.)—P. 59.  
 142. *LUZULA*. Per. glumaceous, 6-leaved. Caps. 3-valved, 1-celled, 3-seeded, (leaves plane.)—P. 62.

(*Peplis portula*, Div. τ. Some *Polygona*, OCTAND. TRIGY.)

## II. TRIGYNIA.

143. *COLCHICUM*. Per. tubular, petaloid, 6-partite, rising from a spatha. Caps. 3-celled.—P. 66.  
 144. *TRIGLOCHIN*. Per. of 6 concave, deciduous leaves, 3 inserted above the rest. Caps. 3 or 6, united by a longitudinal receptacle.—P. 65.

145. *RUMEX*. Per. of 6 leaves Seed single, 3-sided, covered by the inner valvular leaves of the perianth.—P. 64.

### III. POLYGYNIA.

146. *ALISMA*. Per. of 6 leaves. Caps. many, aggregated, single-seeded, indehiscent.—P. 66.

## VIII. OCTANDRIA.

### I. MONOGYNIA.

147. *ACER*. Cal. inferior, 5-cleft. Cor. 5-petalled. Samaras 2, united at the base, with a winged membrane, 1-celled, 1-2-seeded.—P. 69.
148. *EPILOBIUM*. Cal. superior, 4-partite. Cor. 4-petalled. Caps. elongated, 4-celled, 4-valved, many-seeded. Seeds comate.—P. 66.
149. *CHLORA*. Cal. inferior, 8-sepalled. Cor. 8-partite. Caps. 1-celled, many seeded.—P. 67.
150. *VACCINIUM*. Cal. superior, 4-toothed. Cor. campanulate, monopetalous. Anthers with 2 pores. Berry 4-celled, many-seeded.—P. 68.
151. *ERICA*. Cal. 4-sepalled. Cor. monopetalous. Caps. 4-celled, 4-valved, dissepiments from the middle of the valves.—P. 68.
152. *CALLUNA*. Cal. double, each 4-sepalled; the inner one coloured. Cor. monopetalous. Caps. 4-celled, 4-valved, dissepiments opposite the margins of the valves.—P. 68.
153. *DAPHNE*. Per. single, inferior, corolloid, 4-cleft. Berry 1-seeded.—P. 68.

### II. DIGYNIA.

(Some *Polygona* occur, belonging to the following order. *Chrysosplenium* and *Scleranthus*, DECAN.)

### III. TRIGYNIA.

154. *POLYGONUM*. Per. single, inferior, corolloid, 5-partite. Fr. a 1-seeded nut.—P. 69.

## IV. TETRAGYNIA.

155. *ADOXA*. Cal. half inferior, 2-3-cleft. Cor. superior, 4-5-cleft. Berry 4-5-celled; cells 1-seeded.—P. 71.
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## IX. ENNEANDRIA.

## I. HEXAGYNIA.

156. *BUTOMUS*. Per. single, corolloid, 6-partite. Caps. 6, many-seeded.—P. 71.
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## X. DECANDRIA.

## I. MONOGYNIA.

(*Vaccinium myrtillus*, OCTAND.)

## II. DIGYNIA.

157. *SCLERANTHUS*. Per. single, 5-cleft. Caps. 1-seeded, covered by the perianth.—P. 72.  
158. *CHRYSOSPENIUM*. Per. single, 4-5-cleft, subcorolloid. Caps. 2-beaked, many-seeded.—P. 71.  
159. *SAXIFRAGA*. Cal. 5-partite. Cor. 5-petalled. Caps. 2-beaked, 2-celled, many-seeded.—P. 71.  
160. *SAPONARIA*. Cal. tubular, 5-toothed, without scales at the base. Pet. 5, clawed. Caps. oblong, 1-celled.—P. 72.  
161. *DIANTHUS*. Cal. tubular, 5-toothed, with imbricated scales at the base. Pet. 5, clawed. Caps. cylindrical, 1-celled.—P. 72.

## III. TRIGYNIA.

162. *ARENARIA*. Cal. of 5 sepals. Cor. of 5 entire petals. Caps. of 1 cell and many seeds.—P. 74.  
163. *ADENARIUM*. Cal. of 5 sepals, urceolate at the base. Cor. of 5 entire petals, they and the stam. inserted into the base of the capsule. Filam. glandular at the base. caps. of 1 cell, 3 valves, and many seeds —P. 74.

164. **STELLARIA.** Cal. of 5 sepals. Cor. of 5 deeply cloven petals. Caps. of 1 cell, opening with 6 teeth, many-seeded.—P. 73.
165. **SILENE.** Cal. tubular, or ventricose, 5-toothed. Cor. of 5 petals, clawed, and mostly notched, or bifid. Caps. 3-celled, 6-toothed, many-seeded.—P. 72.

## IV. PENTAGYNIA.

166. **COTYLEDON.** Cal. 5-cleft. Cor. tubular, 5-cleft. Caps. 5, each with a nectariferous scale at the base.—P. 75.
167. **SEDUM.** Cal. 4-7-cleft. Cor. 5-petalled. Caps. 5, each with a nectariferous scale at the base.—P. 75.
168. **OXALIS.** Cal. 5-partite. Cor. 5-petalled. Caps. angular, 5-celled; seeds with an elastic arillus.—P. 77.
169. **LYCHNIS.** Cal. tubular, 5-toothed. Cor. of 5 petals, crowned at the mouth. Pet. clawed, divided.—P. 77.
170. **AGROSTEMMA.** Cal. tubular, coriaceous, 5-cleft. Cor. of 5 petals, clawed, entire. Caps. 1-celled.—P. 77.
171. **CERASTIUM.** Cal. of 5 sepals. Cor. of 5 cloven petals. Caps. 1-celled, bursting at the summit with 5 or 10 teeth.—P. 77.
172. **SPERGULA.** Cal. of 5 sepals. Cor. of 5 entire petals. Caps. ovate, 5-celled, 5-valved.—P. 78.
- (*Silene inflata*, Order TRIGY.)

## XI. DODECANDRIA.

## I. MONOGYNIA.

173. **LYTHRUM.** Cal. inferior, 12-toothed. Pet. 6. Caps. oblong, 2-celled.—P. 79.

## II. DIGYNIA.

174. **AGRIMONIA.** Cal. 5-cleft. Pet. 5, inserted on the cal. Pericarp 2, in the bottom of the cal.—P. 79.

## III. TRIGYNIA.

175. *RESEDA*. Cal. monophyllous, cleft. Pet. laciniate. Caps. 1-celled, open at the top.—P. 80.
176. *EUPHORBIA*. Per. single, monophyllous, inferior. Nectaries 4-5, inserted on the perianth. Caps. pedicellate, 3-lobed.—P. 80.

NOTE.—We have placed this genus here in compliance with the customary arrangement, and given a definition in conformity with the Linnæan system ; but it conveys an erroneous idea of the true structure of the flower, which the following more correctly expresses :

*EUPHORBIA*. MONŒCIOUS, involucre monophyllous, calyciform, inclosing a number of pedicellate flowers, of which one is pistilliferous, the rest consisting each of a single stamen.

## IV. TETRAGYNIA.

(*Potentilla* and *Tormentilla*, ICOS. POLYAND.)

## V. DODECAGYNIA.

177. *SEMPERVIVUM*. Cal. 12-cleft. Pet. 12. Caps. 12.—P. 81.

## XII. ICOSANDRIA.

## I. MONOGYNIA.

178. *PRUNUS*. Cal. inferior, 5-cleft. Pet. 5. Nut of the drupe with slightly prominent seams.—P. 81.

(*Cratægus oxycantha*, Order PENTAG.)

(*Cratægus oxycantha*, *Pyrus aucuparia* and *aria* sometimes occur with 2, 3, or 4 styles, but belong to Order PENTAG.)

## II. PENTAGYNIA.

179. *MESPILUS*. Cal. superior, 5-cleft. Pet. 5. Style glabrous. Fr. open at the top, with 2-5 two-seeded, bony nuts.—P. 83.
180. *CRATÆGUS*. Cal. superior, 5-cleft. Pet. 5, round, patent. Style glabrous. Fr. fleshy, closed, 5-celled. Nuts bony, 2-seeded.—P. 82.
181. *PYRUS*. Cal. superior, 5-cleft. Pet. 5, roundish. Fr. closed, 5-celled ; cells 2-seeded.—P. 83.

182. *SPIRÆA*. Cal. inferior, 5-cleft. Pet. 5. Pericarps 3-12, 1-celled, 3-valved; cells 1-3-seeded.—P. 84.

### III. POLYGYNIA.

183. *ROSA*. Cal. urceolate, fleshy, including many hairy achenia. Recept. villose.—P. 84.  
 184. *RUBUS*. Cal. 5-cleft, inferior. Fr. a cluster of many 1-seeded, juicy drupes.—P. 87.  
 185. *FRAGARIA*. Cal. 10-cleft, inferior. Pet. 5. Pericarps inserted on a large pulpy deciduous receptacle.—P. 87.  
 186. *POTENTILLA*. Cal. 8-10-cleft, inferior. Pet 4-5. Pericarps roundish, fixed to a small dry receptacle.—P. 88.  
 187. *GEUM*. Cal. 10-cleft, inferior, alternate segments minute. Pet. 5. Pericarps with a long geniculated awn. Recept. oblong.—P. 89.

(*Spiræa filipendula* and *ulmaria*, Order PENTAG.)

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## XIII. POLYANDRIA.

### I. MONOGYNIA.

τ. Petals 4.

188. *PAPAVER*. Cal. 2-leaved, caducous. Stig. radiate, permanent. Caps. opening with pores under the stigma.—P. 89.  
 189. *CHELIDONIUM*. Cal. 2-leaved, caducous. Stig. 2-lobed. Pod linear, 1-celled, 2-valved. Seeds numerous, crested, free.—P. 89.  
 190. *GLAUCIUM*. Cal. 2-leaved, caducous. Stig. 2-lobed. Pod linear, 1-celled, 2-valved. Seeds numerous, dotted, imbedded in a spongy mass, that fills the pod.—P. 89.

ττ. Petals 5.

191. *CISTUS*. Cal. 5-leaved, 2 of which smaller. Caps. 1-celled, 3-valved.—P. 91.  
 192. *TILIA*. Cal. 5-partite, deciduous. Pericarp coriaceous, 5-celled; cells 2-seeded, (rarely 1-celled, 1-seeded.)—P. 91.

## τττ. Petals numerous.

193. *NYMPHÆA*. Cal. 4-5-leaved, smaller than the cor. Pet. inserted on the germen. Stigmas nectariferous. Berry many-celled, many-seeded.—P. 90.
194. *NUPHAR*. Cal. 5-6-leaved, larger than the cor. Pet. nectariferous on the back, inserted on the receptacle. Berry many-celled, many-seeded.—P. 91.

## II. PENTAGYNIA.

(Styles 2-6.)

195. *AQUILEGIA*. Cal. 5-leaved, deciduous, coloured. Pet. 5, terminating below in a spurred nectary.—P. 91.
- (*Reseda luteola*, DODECAN. TRIGY.; and *Helleborus*, Order POLYG.)

## III. POLYGYNIA.

τ. Pericarps indehiscent, 1-seeded.

196. *THALICTRUM*. Per. single, 4-5-leaved. Pericarps awnless.—P. 92.
197. *CLEMATIS*. Per. single, 4-6-leaved. Pericarps terminated by a long feathered awn.—P. 92.
198. *ANEMONÆ*. Involucre remote from the flower, of 3 divided leaves. Per. single, petaloid, 5-9-leaved.—P. 92.
199. *RANUNCULUS*. Cal. 5-leaved. Pet. 5. with a nectariferous pore at the base. Pericarps shortly mucronate.—P. 93.
200. *FICARIA*. Cal. 3-leaved, caducous. Pet. 9, with a nectariferous pore at the base. Pericarps obtuse.—P. 93.

ττ. Pericarps dehiscent, many-seeded.

201. *CALTHA*. Per. single, 5-leaved, petaloid. Pericarps spreading.—P. 95.
202. *HELLEBORUS*. Cal. 5-leaved, subcoriaceous, persistent. Pet. 8-10, very small, tubular, nectariferous. Pericarps compressed, sub-erect.—P. 95.

## XIV. DIDYNAMIA.

## 1. GYMNOSPERMIA.

τ. Cal. 5 or 10 cleft, sub-regular.

203. *LYCOPUS*. Cal. 5-cleft. Cor. tubular, 4-cleft. Stam. simple. Seeds naked.—P. 100.
204. *LEONURUS*. Cal. 5-angled. Anthers sprinkled with shining dots.—P. 100.
205. *GLECHOMA*. Cor. upper lip bifid. Anthers approaching in pairs, and forming a cross.—P. 98.
206. *MENTHA*. Cor. 4-lobed. Stam. erect, distant.—P. 96.
207. *TEUCRIUM*. Cor. upper lip short, 2-partite. Stam. projecting through the cleft.—P. 96.
208. *AJUGA*. Cor. upper lip very minute. Stam. exserted. Anthers reniform, 1-celled.—P. 96.
209. *BETONICA*. Cor. upper lip plane, ascending; lower one 2-lobed; the tube cylindrical.—P. 99.
210. *LAMIUM*. Cor. upper lip vaulted, entire; lower one 2-lobed, toothed on each side.—P. 98.
211. *GALEOPSIS*. Cor. upper lip vaulted, notched; lower one 3-lobed, 2-dentate above.—P. 99.
212. *GALEOBDOLO*. Cor. upper lip vaulted, entire; lower one in three acute segments.—P. 99.
213. *STACHYS*. Cor. upper lip vaulted; lower one 3-lobed, the 2 lateral lobes reflexed. Stam. after flowering reflexed.—P. 99.
214. *NEPETA*. Cor. upper lip notched; lower one 3-lobed; the middle lobe largest, crenate; the lateral ones very short, reflexed.—P. 96.
215. *BALLOTA*. Cal. 10-ribbed. Cor. upper lip concave, notched.—P. 100.
216. *MARRUBIUM*. Cal. 10-ribbed. Cor. upper lip linear, straight, cloven.—P. 100.

τ τ. Calyx 2-lipped. (*Verbena*, Order ANGIOSP.)

217. *SALVIA*. Cal. 2-lipped. Cor. ringent. Filaments 2-



- cleft, one branch antheriferous, the other abortive — P. 102.
218. *SCUTELLARIA*. Upper lip covering the fruit like an operculum.—P. 102.
219. *THYMUS*. Cal. mouth closed with hairs. Cor. 2-lipped.—P. 101.
220. *PRUNELLA*. Filaments forked at the end, one point bearing the anther.—P. 102.
221. *ORIGANUM*. Bracteas and calyces collected into a spiked cone. Cor. upper lip straight, notched.—P. 101.
222. *CLINOPODIUM*. Bracteas many, linear, under each calyx. Cor. upper lip erect, emarginate.—P. 100.
223. *MELITTIS*. Cal. larger than the tube of cor. Cor. upper lip plane. Anthers approaching in pairs, and forming a cross.—P. 101.

## II. ANGIOSPERMIA.

### τ Calyx 4-cleft.

224. *BARTSIA*. Cor. ringent, upper lip concave, longest, entire. Caps. ovate, compressed, 2-celled, many seeded. Seeds angular.—P. 103.
225. *RHINANTHUS*. Cal. inflated. Cor. upper lip laterally compressed. Caps. compressed, 2-celled. Seeds many, plane, imbricated.—P. 103.
226. *MELAMPYRUM*. Cor. upper lip compressed. Caps. oblong, 2-celled, 2-seeded. Seeds gibbous, smooth.—P. 103.
227. *EUPHRASIA*. Cor. upper lip divided. Anthers with mucronate lobes. Caps. ovate, oblong, 2-celled. Seeds striate.—P. 103.

### ττ. Calyx 5-cleft.

228. *SCROPHULARIA*. Cor. very short; limb shortly 2-lipped, with an internal intermediate scale. Caps. 2-celled. P. 105.
229. *SIBTHORPIA*. Cor. sub-rotate. Stam. approximating in pairs. Caps. compressed, 2-celled, orbicular.—P. 106.
230. *DIGITALIS*. Cor. campanulate, ventricose beneath. Caps. ovate, 2-celled, many-seeded.—P. 106.

231. *ANTIRRHINUM*. Cor. personate, with a deflexed prominence, or spur at the base. Caps. 2-celled.—P. 104.
232. *PEDICULARIS*. Cal. inflated. Cor. upper lip arched, laterally compressed. Caps. compressed, 2-celled. Seeds angular.—P. 104.
233. *VERBENA*. Cor. infundibuliform, its limb 5-cleft, unequal. Stam. 2-4. Seeds 2-4, inclosed in their evanescent pericarp.—P. 106.

III. Calyx 2-leaved.

234. *OROBANCHE*. Cal. of 2-lobed lateral segments. Cor. ringent. Caps. 1-celled, 2-valved, many-seeded.—P. 106.

## XV. TETRADYNAMIA.

### I. SILICULOSA.

235. *CAKILE*. Pouch of two single-seeded articulations; upper one with an erect sessile seed; lower one with a pendulous seed, (sometimes abortive.)—P. 107.
236. *CRAMBE*. Pouch with the upper articulation subglobose, its seed inverted, fixed to the base of the cell by its (long curved) seed-stalk; lower articulation abortive, resembling a pedicel.—P. 107.
237. *CORONOPUS*. Pouch 2-lobed, without valves, wingless; cells 1-seeded. Cotyledons incumbent, linear.—P. 107.
238. *THLASPI*. Cal. unequal in its insertion, patent. Pouch compressed, emarginate; valves carinate, (often winged,) many-seeded, (filaments without teeth, distinct.)—P. 108.
239. *TEESDALIA*. Filam. with a small scale on their inside. Pouch emarginate; valves carinate. Cells 2-seeded.—P. 108.
240. *LEPIDIUM*. Pet. equal. Pouch with 1-seeded cells, their valves carinate.—P. 109.
241. *COCHLEARIA*. Cal. patent. Filaments, shorter ones without teeth. Pouch sub-ovate, many-seeded, their

valves turgid. Seeds not margined. Cotyledons accumbent.—P. 109.

242. *DRABA*. Filam. without teeth. Pouch entire, oval. Valves plane, or slightly convex. Cells many-seeded. Seeds not margined. Cotyledons accumbent.—P. 110.

## II. SILIQUOSA.

243. *CARDAMINE*. Pod linear, with truncated margins, and plane, nerveless valves, (often bursting elastically,) narrower than the dissepiment.—P. 110.
244. *ARABIS*. Cal. erect. Pod linear, crowned with the subsessile stigma; valves veined, or nerved. Seeds in 1 row. Cotyledons acumbent.—P. 110.
245. *BARBAREA*. Cal. erect. Filaments, shorter ones with intermediate glands. Pod 4-edged. Cotyledons accumbent.—P. 111.
246. *NASTURTIUM*. Cal. patent. Pod rounded, (sometimes short); valves concave, nerveless, not carinate. Cotyledons accumbent.—P. 111.
247. *SISYMBRIUM*. Cal. patent, (sometimes sub-erect.) Pod roundish, or angular. Cotyledons incumbent, (sometimes obliquely) plane.—P. 112.
248. *ERYSIMUM*. Cal. closed. Stigma capitate, sometimes notched, with the lobes patent. Pod 4-sided. Seeds not margined. Cotyledons incumbent.—P. 112.
249. *CHEIRANTHUS*. Cal. closed, opposite, leaflets saccate at the base. Stigma on a style, 2-lobed, the lobes patent or capitate. Pod compressed, or 2-edged. Cotyledons accumbent.—P. 113.
250. *MATTHIOLA*. Cal. erect. Filaments, longer ones dilated. Stigma, lobes connivent. Cotyledons incumbent.—P. 113.
251. *BRASSICA*. Cal. closed. Pod 2-valved, (with an abortive or 1-seeded beak.) Cotyledons conduplicate.—P. 113.
252. *SINAPIS*. Cal. patent. Pod 2-valved, (sometimes of 2 articulations, of which the upper is valveless). Seeds subglobose, in a single series. Cotyledons conduplicate.—P. 114.

253. **RAPHANUS.** Cal. closed. Pod valveless. Cotyledons conduplicate.—P. 114.

NOTE.—In the fourth vol. of *Hortus Kewensis*, Mr. Brown has given an entirely new arrangement of this natural family, which is here followed. The embryo, which is brought forward as affording important distinguishing marks, being surrounded by no albumen, offers itself to examination immediately on opening the external coat of the seed, and the distinction between accumbent and incumbent cotyledons will be obvious. In the former, the back of one of the cotyledons is applied to the curved radicle; in the latter, the edges or margins of the cotyledons are applied to it.

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## XVI. MONADELPHIA.

### I. PENTANDRIA.

254. **ERODIUM.** Monogynous. Sepals 5. Pet. 5. Nectariferous glands 5. Imperfect filam. 5, alternating with the 5 perfect stamens. Fr. beaked, separating into 5 one-seeded caps., each with a long spiral awn, bearded on the inside.—P. 115.

(*Linum*, PENT. *Geranium pusillum*, DECAND.)

### II. DECANDRIA.

255. **GERANIUM.** Monogynous. Sepals 5. Pet. 5. Nectariferous glands 5. Fr. beaked, separating into five 1-seeded capsules, each with a long, naked, simple awn.—P. 115.

(*Oxalis*, DECAND.)

### III. POLYANDRIA.

256. **LAVATERA.** Polygonous. Cal. double; ext. 3-cleft. Caps. circularly arranged, 1-seeded.—P. 117.
257. **MALVA.** Polygonous. Cal. double; ext. of 3 leaves. Caps. circularly arranged, 1-seeded.—P. 117.

## XVII. DIADELPHIA.

## I. HEXANDRIA.

258. *FUMARIA*. Sepals 2. Pet. 4, irregular, one gibbous at the base. Filaments 2, membranaceous, each bearing three anthers.—P. 118.

## II. OCTANDRIA.

259. *POLYGALA*. Sepals 5, two of them wing-shaped and coloured. Caps. obcordate, compressed.—P. 119.

## III. DECANDRIA. (Papilionaceous flowers.)

## τ. Stamens monadelphous.

260. *GENISTA*. Cal. 2-lipped, 2 and 3 toothed. Standard reflected.—P. 119.
261. *ULEX*. Cal. 2-leaved, with a small scale each side the base. Legume scarcely longer than the calyx.—P. 119.
262. *ANTHYLLIS*. Cal. 5-toothed, inflated. Legume small, rounded, 1-3 seeded, included.—P. 120.
263. *ONONIS*. Cal. 5-cleft, divisions linear. Standard striated. Legume sessile.—P. 120.

## τ τ. Stamens diadelphous.

## a. Style pubescent.

264. *OROBUS*. Cal. obtuse at the base, its upper segments deeper and shorter. Style linear, cylindrical, downy above.—P. 120.
265. *LATHYRUS*. Cal. with the two upper segments shorter. Style plane, broader upwards, and downy.—P. 120.
266. *VICIA*. Style bearded beneath the stigma.—P. 121.
267. *ERVUM*. Stigma capitate, hairy all over.—P. 122.

## b. Style glabrous.

268. *ORNITHOPUS*. Legume jointed, curved, cylindrical.—P. 122.



269. *HIPPOCREPIS*. Legume compressed, curved, membranaceous, one suture deeply notched.—P. 123.
270. *TRIFOLIUM*. Fl. more or less capitate. Legume (mostly) shorter than the cal., 1 or many seeded, deciduous, indehiscent.—P. 123.
271. *LOTUS*. Cor. the wings cohering by the upper edge. Filaments dilated above.—Legume straight, cylindrical.—P. 126.
272. *MEDICAGO*. Legume membranaceous, compressed, falcate, or spirally twisted.—P. 126.

## XVIII. POLYADELPHIA.

## I. POLYANDRIA.

273. *HYPERICUM*. Cal. 5-partite. Pet. 5. Filaments numerous, united at the base, in 3-5 bundles. Caps. many-seeded, superior.—P. 127.

## XIX. SYNGENESIA.

## I. POLYGAMIA ÆQUALIS.

τ. Corollas all ligulate. (*Semiflosculosi*.)

274. *TRAGOPOGON*. Involucre simple, many-leaved. Recept. naked. Pappus stipitate, feathered. Pericarps longitudinally striated.—P. 128.
275. *PICRIS*. Cal. double; the inner equal, the outer lax, and shorter. Recept. naked. Pappus sessile, feathery. Pericarps transversely striated.—P. 129.
276. *HELMINTHIA*. Cal. double; the inner 8-leaved, equal; the outer 5-leaved, length of the inner. Pappus feathered, pedicelled. Pericarps transversely striate.—P. 129.
277. *SONCHUS*. Invol. imbricate, swelling at the base. Recept. naked. Pappus simple, sessile.—P. 129.
278. *LEONTODON*. Invol. imbricate, with flaccid scales. Recept. naked. Pappus simple, stipitate.—P. 130.

- 279. APARGIA. Invol. imbricate, with scales at the base. Recept. naked, dotted. Pappus feathered, sessile, unequal.—P. 130.
- 280. HIERACIUM. Invol. imbricate, ovate. Recept. nearly naked, dotted. Pappus simple, sessile.—P. 131.
- 281. CREPIS. Invol. surrounded with deciduous scales, and at length swelling into protuberances. Recept. roughish. Pappus sessile.—P. 131.
- 282. HYPOCHÆRIS. Invol. oblong, imbricated. Recept. chaffy. Pappus feathered.—P. 131.
- 283. LAPSANA. Invol. with scales at the base. Recept. naked. Pappus none.—P. 132.
- 284. CICHORIUM. Invol. with scales, or smaller leaflets at the base. Recept. naked, or slightly hairy. Pappus sessile, scaly, shorter than the pericarp.—P. 132.

ττ. Corollas all tubular and spreading. (*Capitatae.*)

- 285. ARCTIUM. Invol. globose, each scale with an incurved hook at the tip. Recept. chaffy. Pappus simple.—P. 132.
- 286. SERRATULA. Invol. cylindrical, imbricate, with scales that are not spinous. Recept. chaffy. Pappus roughish, or feathered, rigid, persistent.—P. 132.
- 287. CARDUUS. Invol. swelling, imbricate, with spinous scales. Recept. hairy. Pappus deciduous, roughish.—P. 133.
- 288. CNICUS. Invol. swelling, imbricate, with spinous scales. Recept. hairy. Pappus deciduous, feathered.—P. 133.
- 289. CARLINA. Invol. swelling, the exterior scales spinous, the inner coloured, scariose. Recept. chaffy. Pappus feathered.—P. 134.

τττ. Corollas all tubular, parallel, and flat-topped. (*Discoidei.*)

- 290. BIDENS. Invol. many-leaved, bracteated at the base. Recept. plane, chaffy. Pericarps with 2-5 persistent awns.—P. 135.
- 291. EUPATORIUM. Invol. oblong, imbricated. Recept. naked. Pappus rough.—P. 135.
- 292. SANTOLINA. Invol. hemispherical, imbricate. Recept. chaffy. Pappus none.—P. 135.

## II. POLYGAMIA SUPERFLUA.

τ. Rays of the corolla obsolete. (*Discoidei*.)

293. *TANACETUM*. Invol. imbricate, hemispherical. Recept. naked. Florets of the ray trifid, or wanting. Pericarps crowned with a membranaceous margin.—P. 136.
294. *ARTEMISIA*. Invol. imbricate. Recept. naked, or villose. Fl. of the ray subulate. Pericarps crowned with a membranaceous pappus.—P. 136.
295. *GNAPHALIUM*. Invol. imbricate, with membranous coloured scales. Recept. naked. Fl. of the ray subulate. Pappus rough.—P. 137.
296. *CONYZA*. Invol. roundish, imbricate. Recept. naked. Fl. of the ray 3-cleft. Pappus rough.—P. 137.

(*Tussilago Farfara* and *Hybrida*, Sect. ττ.)

ττ. Corollas of the ray ligulate. (*Radiati*.)

297. *TUSSILAGO*. Invol. simple, equal, submembranaceous, swelling. Recept. naked. Pappus simple.—P. 137.
298. *SENECIO*. Invol. subcylindrical, equal, scaly below, the scales withered at the tip. Recept. naked. Pappus simple.—P. 138.
299. *ASTER*. Invol. imbricate. Recept. naked. Fl. of the ray more than 10. Pappus simple.—P. 139.
300. *SOLIDAGO*. Invol. imbricate, with connivent scales. Recept. naked. Fl. of the ray about 5. Pappus rough.—P. 139.
301. *INULA*. Invol. imbricate. Recept. naked. Fl. of the ray linear, very numerous. Anthers with 2 bristles at the base.—P. 139.
302. *BELLIS*. Invol. hemispherical, with equal scales. Recept. naked, conical. Pappus none.—P. 139.
303. *CHRYSANTHEMUM*. Invol. hemispherical, imbricated, the scales membranous at the margin. Recept. naked. Pappus none.—P. 139.
304. *PYRETHRUM*. Invol. hemispherical, imbricated with scales that are membranous at the margin. Recept. naked. Pericarps crowned with a membranous margin.—P. 140.



305. *MATRICARIA*. Invol. imbricate, scales with membranous borders. Recept. naked, almost cylindrical. Pappus none.—P. 140.
306. *ANTHEMIS*. Invol. hemispherical, its scales nearly equal, their margins scariose. Recept. convex, chaffy. Pericarps crowned with a membranous border.—P. 140.
307. *ACHILLEA*. Invol. imbricate, ovate, unequal. Recept. plane, chaffy. Fl. of the ray 5-10, roundish, obcordate. Pericarps naked.—P. 141.

### III. POLYGAMIA FRUSTRANEA.

308. *CENTAUREA*. Invol. scaly. Recept. bristly. Fl. of the ray infundibuliform, irregular, longer than those of the disk. Pappus simple.—P. 141.

## XX. GYNANDRIA.

### MONANDRIA.

309. *ORCHIS*. Cor. ringent. Lip spurred at the base beneath. Glands of the stalks of the pollen mass (1-2) contained in one common little pouch.—P. 142.
310. *HABENARIA*. Cor. ringent. Lip spurred at the base beneath. Glands of the stalks of the pollen mass naked, distinct, (the cells of the foot stalk adnate or separate.)—P. 144.
311. *OPHRYS*. Cor. subpatent. Lip spurless. Glands of the pollen mass contained in distinct little pouches.—P. 144.
312. *NEOTTIA*. Cor. ringent. Pet. the exterior ones opening forward, placed beneath the smooth lip; the interior ones connivent.—P. 144.
313. *LISTERA*. Cor. irregular. Lip 2-lobed. Column wingless. Anther fixed by its base. Pollen farinaceous.—P. 144.
314. *EPIPACTIS*. Lip ventricose beneath; the extremity either undivided or 3-lobed; the middle lobe largest, connected by a joint. Pollen farinaceous.—P. 145.

## XXI. MONÆCIA.

## MONANDRIA.

315. ZANNICHELLIA. *Barren fl.* Perianth none. *Fertile fl.* Per. of 1 leaf. Style 1. Stigma peltate. Caps. 4 or more, sessile.—P. 145.
316. CALLITRICHE. *Barren fl.* Per. single, of 2 leaves. *Fertile fl.* Styles 2. Pericarp of 4 deep, compressed lobes, indehiscent, 4-celled. Cells 1-seeded.—P. 145.
317. ZOSTERA. Spatha foliaceous. Stamens and pistils inserted in 2 rows on one side of a spadix. *Barren fl.* Anthers ovate, sessile, alternating with the germen. *Fertile fl.* Style bifid. Drupe 1-seeded.—P. 146.  
(*Chara* belongs to CRYPT.)

## TRIANDRIA.

318. TYPHA. Fl. in cylindrical dense spikes. *Barren fl.* Perianth 0. Stamens 3 together on each filament. *Fertile fl.* Per. 0. Pericarp pedicellate, surrounded with hairs at the base.—P. 146.
319. SPARGANIUM. Fl. in spherical dense heads. *Barren fl.* Per. single, of 3 leaves. *Fertile fl.* Per. single, of 3 leaves. Drupe dry, 1-seeded.—P. 146.
320. CAREX. Fl. in an imbricated catkin. *Barren fl.* Cal. of 1 glumaceous scale. Cor. 0. *Fertile fl.* Cal. of 1 glumaceous scale. Cor. of 1 urceolate, ventricose leaf. Stigmas 2-3. Nut triquetrous, included in the persistent cor.—P. 146.

## TETRANDRIA.

321. KOBRESIA.—P. 153.
322. LITTORELLA. *Barren fl.* Cal. 4-leaved. Cor. 4-fid. Stam. very long. *Fertile fl.* Cal. 0. Cor. unequally 3-cleft. Style very long. Nut 1-seeded.—P. 153.
323. ALNUS. Fl. in imbricated catkins. *Barren fl.* Scale of catkin 3-lobed, with 3 flowers. Perianth single, 4-partite. *Fertile fl.* Scale of catkin subtrifid, with 2 flowers. Perianth 0. Styles 2. Fruit compressed.—P. 153.

324. *URTICA*. *Barren fl.* Per. single, of 4 leaves, containing rudiments of a germen. *Fertile fl.* Per. single, of 2 leaves. Pericarp 1-seeded, shining.—P. 153.

## PENTANDRIA.

(*Fagus sylvatica*, *Quercus*, Order POLYAND.)

(*Atriplex portulacoides*, POLYAND. and MONŒCIA.)

## POLYANDRIA.

325. *CERATOPHYLLUM*. *Barren fl.* Cal. multi-partite. cor. 0. Stamens 16-20. *Fertile fl.* Cal. multi-partite. Cor. 0. Stigmas oblique, nearly sessile. Nut 1-seeded.—P. 154.
326. *MYRIOPHYLLUM*. *Barren fl.* Cal. 4-leaved. Pet. 4. Stamens 8. *Fertile fl.* Cal. 4-leaved. Pet. 4. Stigmas 4, sessile. Nuts 4, subglobose, 1-seeded.—P. 154.
327. *SAGITTARIA*. Cal. 3-leaved. Cor. 3-petalled. *Barren fl.* Stamens about 2-4. *Fertile fl.* Caps. many, swelling, 1-seeded.—P. 154.
328. *ARUM*. Spatha of 1 leaf, convolute at the base. Perianth 0. Spadix with germens at the base, and naked above. Stamens sessile, near the middle of the spadix. Berry 1-celled, 1-seeded.—P. 154.
329. *POTERIUM*. *Barren fl.* Cal. 4-leaved. Cor. 4-partite. Stamens 30-40. *Fertile fl.* Cal. 4-leaved. Cor. 4-partite. Germens 2. Fr. 2-celled, invested by the calyx.—P. 154.
330. *QUERCUS*. *Barren fl.* in a lax catkin. Per. single, 5-cleft. Stamens 5-10. *Fertile fl.* Involucre cup shaped, scaly. Per. single, incorporated with the germen, 6-lobed. Nut (acorn) 1-celled, 1-seeded, surrounded at the base by the enlarged cup-shaped involucre.—P. 155.
331. *CASTANEA*. *Barren fl.* in a long cylindrical catkin. Per. single, 6-partite. Stamens 5-20. *Fertile fl.* 3 in a 4-lobed muricate involucre. Per. single, urceolate, 5-6-lobed. Nut 1-2 seeded, invested by the enlarged involucre.—P. 155.
332. *FAGUS*. *Barren fl.* in a globose catkin. Per. single, campanulate, 6-cleft. Stamens 5-12. *Fertile fl.* 2 in



a 4-lobed prickly involucre. Per. single, urceolate, with 4-5 minute lobes. Styles 3. Nuts 1-seeded, invested with the enlarged involucre.—P. 155.

333. *BETULA*. *Barren fl.* in a cylindrical catkin, its scales 3-flowered. Per. 0. Stam. 10-12. *Fertile fl.* Catkin scale 3-lobed, 3-flowered. Per. 0. Styles 2. Nut compressed with a membranaceous margin, 1-seeded.—P. 155.
334. *CARPINUS*. *Barren fl.* in a cylindrical catkin, its scales roundish, ciliate at the base. Stam. 8-20. *Fertile fl.* in a lax catkin, its scales large, foliaceous, 3-lobed, 1-flowered. Per. urceolate, 6-dentate. Styles 2. Nut ovate, striate, 1-seeded.—P. 155.
335. *CORYLUS*. *Barren fl.* Catkin cylindrical, scales 3-cleft. Per. 0. Stam. 8. Anthers 1-celled. *Fertile fl.* Per. obsolete. Stigmas 2. Germens several, surrounded by a scaly involucre. Nut 1-seeded, surrounded at the base with the enlarged united coriaceous scales of the involucre.—P. 156.

## XXII. DIOECIA.

### DIANDRIA.

336. *SALIX*. *Barren fl.* Catkin scales imbricated, 1-flowered, with a gland at the base. Per. 0. Stam. 1-5. *Fertile fl.* Catkin scales 1-flowered. Per. 0. Stigmas 2. Caps. 1-celled, 2-valved, many-seeded. Seeds comose.—P. 156.

### TRIANDRIA.

337. *RUSCUS*. *Barren fl.* Per. single, 6-leaved. Filam. united in a tube. Anthers 3-6. *Fertile fl.* Per. single, 6-leaved. Nectary tubular. Style 1. Stigma 1. Berry superior, 3-celled. Cells 2-seeded.—P. 159.

(*Valeriana Dioica*, TRIAND.)

### TETRANDRIA.

338. *MYRICA*. *Barren fl.* Catkin with concave scales.

Per. 0. *Fertile* fl. Catkin, scales concave. Per. 0. Styles 2. Drupe 1-celled, 1-seeded.—P. 159.

339. *VISCUM*. *Barren* fl. Per. single, of 4 petals, dilated at the base, connate. Anthers sessile, adnate. *Fertile* fl. Cal. submarginate. Pet. 4, dilated at the base. Style 1. Drupe inferior, 1-seeded.—P. 159.

(*Rhamnus catharticus*, PENTAND. *Urtica Dioica*, MONÆC.)

#### PENTANDRIA.

340. *HUMULUS*. *Barren* fl. Per. single, 5-leaved. Anthers with 2 pores at the end. *Fertile* fl. Catkin scales large, persistent, concave, entire, 1-flowered. Per. 0. Styles 2. Seed 1.—P. 159.

#### HEXANDRIA.

341. *TAMUS*. *Barren* fl. Per. single, 6-parted. *Fertile* fl. Per. single, 6-parted. Style 3-cleft. Berry inferior, 3-celled, 2-seeded.—P. 160.

#### OCTANDRIA.

342. *POPULUS*. *Barren* fl. Catkin scales lacerated. Per. single, entire, oblique, turbinate. Anthers 8-30. *Fertile* fl. Catkin scales lacerated. Per. turbinate. Stigmas 4. Caps. superior, 2-celled, 2-valved, many-seeded. Seeds comose.—P. 160.

#### ENNEANDRIA.

343. *MERCURIALIS*. *Barren* fl. Per. single, tripartite. Stam. 9-12. Anthers globose, 2-lobed. *Fertile* fl. Per. single, tripartite. Styles 2. Caps. 2-celled. Cells 1-seeded.—P. 160.
344. *HYDROCHARIS*. *Barren* fl. Cal. tripartite. Pet. 3. *Fertile* fl. Cal. tripartite. Pet. 3. Styles 6, each with 2 stigmas. Caps. inferior, roundish, coriaceous, 6-celled, many-seeded.—P. 161.

#### DECANDRIA.

(*Lychnis Dioica*, DECAND. PENTAGY.)

## POLYANDRIA.

(*Populus nigra*, Order OCTAND.)

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## XXIII. POLYANDRIA.

## MONŒCIA.

345. *ATRIPLEX*. *Perfect fl.* Per. single, inferior, 5-partite. Stam. 5. Style tripartite. Fr. depressed, 1-seeded, covered by the calyx. *Pistilliferous fl.* Per. single, 2-partite. Stam. 0. The rest as in the perfect fl.—P. 161.
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## XXIV. CRYPTOGRAMIA.

The original Linnæan orders of this Class were, 1. Filices; 2. Musci; 3. Algæ; 4. Fungi. To these two others were afterwards added, Hepaticæ and Lichenes. To prevent useless repetition, the reader is referred to the arrangement of the whole of this great Class in that part of our work in which the Plants of Devon are arranged according to the Natural Method.



# FLORA DEVONIENSIS.

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## I. MONANDRIA.

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### I. MONOGYNIA.

#### 1. SALICORNIA.

1. *S. herbacea*, (*erect Glasswort*,) stem erect, its articulations reversely conical; spikes cylindrical, attenuated. E. B. t. 415. (*S. annua*.)

*β. procumbens*, stem procumbent; stam. mostly 2. E. B. t. 2475.

HAB. Salt marshes, common. Fl. Aug. Sept. ☉

Plant leafless, much branched; fructification on jointed spikes, lateral and terminal, consisting of a cluster of 3 flowers at the base of each articulation. Stamens 1 or 2; when 2, each appears in succession.

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## II. DIANDRIA.

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### I. MONOGYNIA.

#### 1. LIGUSTRUM.

1. *L. vulgare*, (*Privet*,) leaves lanceolato-elliptical; panicle compact. E. B. t. 764.

HAB. Hedges, occasionally. Fl. June. ♀

A shrub with small white flowers and black berries; the leaves, which are opposite and entire, remain through the winter in sheltered situations.



## 2. FRAXINUS.

1. *F. excelsior*, (*common Ash*,) leaflets lanceolate, acuminate, serrate. E. B. t. 1692.

HAB. Woods and hedges, common. Fl. April, May. ♀

The buds of this useful timber-tree are black; the bark smooth and grey; the leaves are pinnated with an odd one, with from 11-15 leaflets; the flowers are clustered, and appear before the leaves.

A variety of this is occasionally, though rarely met with, having many entire leaves (*F. heterophylla*. E. B. t. 2476,) of which we possess no habitat quite wild; but it may occasionally be met with in plantations.

## 3. CIRCÆA.

1. *C. lutetiana*, (*Enchanter's Night-shade*,) stem erect, pubescent; leaves ovate, toothed. E. B. t. 1056.

HAB. Woods and sheltered hedges, frequent. Fl. June—August. ♀

The flowers are white, or rose-colour, with reflexed sepals, and on a pubescent, more or less branched, raceme.

## 4. VERONICA.

- a. Root perennial, leaves opposite, flowers on spikes.

τ. Spikes terminal.

1. *V. serpyllifolia*, (*Thyme-leaved Speedwell*,) stem procumbent; leaves ovate, crenate; caps. obcordate, length of the style. E. B. t. 1075.

HAB. Pastures and road-sides, common. Fl. May, June. ♀

The flowers are pale-blue with darker lines, on very long lax bracteated spikes.

ττ. Spikes axillary.

2. *V. scutellata*, (*narrow-leaved Marsh Speedwell*,) leaves linear, slightly denticulate; spikes alternate; pedicels divaricated. E. B. t. 782.

HAB. Bogs, and beside ponds and streams, not unfrequent. Bogs on Haldon, Bovey Heathfield, Borringdon Moor, Ilington, Holwell near Manaton, &c. Broad Clist, Rev. R. P. Welland. Fl. July, August. ♀

Plant 10 or 12 inches, or more high; of a weak diffused habit; the flowers flesh-colour, streaked with bluish veins.

3. *V. anagallis*, (*water Speedwell*,) stem erect; leaves lanceolate, serrate; spikes opposite. E. B. t. 781.

HAB. Watery situations, but not frequent. Banks of the Clyst by St. Mary's-bridge. Marpool near Exmouth, Rev. J. Jervis. Borringdon Moor, Dr. Wavell. Marychurch, rare, Rev. A. Neck. Fl. June—August. ♀

Stems a foot or more; spikes long, many flowered, the flowers purplish on short pedicels, never reflexed.

4. *V. beccabunga*, (*Brook-lime*,) stems procumbent, rooting; leaves ovate, obtuse, sub-serrate, glabrous; spikes opposite. E. B. t. 655.

HAB. Ditches and slow water-courses, common. May—August. ♀

A glabrous succulent plant, with bright-blue flowers.

5. *V. officinalis*, (*common Speedwell*,) stem procumbent, hairy; leaves obovate, serrate, covered with short thick hairs. E. B. 765.

HAB. Dry and exposed situations, common. Fl. May, June. ♀

The stem is naked and rooting below; the spikes appear nearly terminal.

6. *V. montana*, (*mountain Speedwell*,) stem hairy on all sides; leaves heart-ovate, petiolate, serrate; spikes alternate, few-flowered. E. B. t. 766.

HAB. Woods and hedges. Hsington, Bovey Tracey, Tor Abbey, Kent's Hole, Withecombe Wood, Woods at Cowley, &c. Fl. May, June. ♀

This plant has a weak stem, pale blue flowers, margined and ciliated capsules, much larger than the calyx; it grows in much lower and more sheltered situations than its trivial name implies.

7. *V. chamædrys*, (*wild Germander, or Bird's-Eye*,) stem with 2 opposite rows of hairs; leaves ovate, inciso-serrate, wrinkled, sessile. E. B. t. 623.

HAB. Woods and hedges, common. Fl. April—June. ♀

The stem is procumbent, with 2 lines of hairs decussate between each pair of leaves; the flowers bright blue, occasionally found white; the capsule shorter than the calyx.

b. Root annual, flowers solitary, axillary.

8. *V. agrestis*, (*procumbent Speedwell*,) stem procumbent; leaves all petiolate, heart-ovate, inciso-serrate, shorter than the flower-stalks. E. B. t. 783.

HAB. Fields and waste places, common. Fl. April—Sept. ☉

Common size, 4 or 5 inches; cor. small bright blue; peduncles recurved when bearing fruit; caps. hairy.

9. *V. arvensis*, (*small Speedwell*,) stem erect; leaves heart-ovate, serrate, the lower ones petiolate; the floral leaves lanceolate, sessile, longer than the peduncle. E. B. t. 734.

HAB. Fields, old walls, &c. common. Fl. April—Sept. ☉

Size of the last; the flowers nearly sessile; caps. compressed and ciliated.

10. *V. hederifolia*, (*Ivy-leaved Speedwell*,) stem procumbent; leaves cordate, mostly 5-lobed. E. B. t. 784.

HAB. Hedges, tillage-fields, &c. common. Fl. April—Sept. ☉

The plant has a long trailing habit; the leaves are rather fleshy, with the terminal lobe largest; the peduncles longer than the leaves, recurved when fruit-bearing; the capsules glabrous.

## 5. PINGUICULA.

1. *P. Lusitanica*, (*pale Butterwort*,) leaves and scape hairy; spur obtuse, curved, shorter than the corolla. E. B. t. 145.

HAB. Bogs, frequent. Haldon, Dartmoor, Hightor Down, Hingodon Down near Moreton, Woodbury Hill, Salcombe Hill, &c. Fl. June—Aug. 24

The leaves are marked with purplish reticulated veins; the corolla flesh-colour, with nearly regular limb, and yellow throat.

## 6. UTRICULARIA.

1. *U. vulgaris*, (*greater Bladdersnout*,) leaves capillary pinnato-multifid; spur conical, upper lip as long as the projecting palate. E. B. t. 253.

HAB. Pools and ditches, occasionally. Bovey Heathfield, the Stover Canal Head, ponds between Teignbridge and Kingsteignton, Powderham Marshes. Fl. June, July. 24

The roots are much branched; the stems prostrate in the water; the scape erect, rising 5 or 6 inches from the surface, and bearing from 6 to 8 flowers, which are bright yellow, streaked with red; the lower lip of the corolla is convex, with a projecting palate, and larger than the upper; the spur is short, and bent down; the capsule globose; the leaves have small cilia, interspersed with vesicles on the margin.

2. *U. intermedia*, (*hooded Bladdersnout*,) leaves tripartite with linear dichotomous segments; spur conical; upper lip twice the length of the palate. E. B. t. 2489.

HAB. In the same situations as the last, but much less frequent. In a pool between Teignbridge and Kingsteignton. Fl. July. 24

Habit of the last, but smaller and more leafy; the leaves broader, and the vesicles growing distinct from them.

## 7. LEMNA.

1. *L. trisulca*, (*Ivy-leaved Duckweed*,) roots solitary; fronds ovate, lanceolate, narrow at the base, sinuated at the tip. E. B. t. 926. Hook Fl. Scot. p. 10.

HAB. In clear ponds occasionally. Pond at Mary's Clist. Fl. June. ☉

The fronds are pellucid, pale-green, forming by proliferation a triply pinnate frond.

2. *L. minor*, (*common Duckweed*,) roots solitary; fronds ovate, compressed. E. B. t. 1095.

HAB. Stagnant ponds and ditches, common. Fl. June. ☉

This species is the most abundant of any; it is of a succulent, rather thick and firm texture.

3. *L. polyrhiza*, (*greater Duckweed*,) roots numerous, clustered; fronds obovato-orbicular, compressed. E. B. t. 2458.

HAB. Stagnant waters, frequent. Ponds at Taigntace, Ilington, Topsham, &c. ☉

The largest of the genus; fronds of a firm texture, indistinctly striated, purplish beneath; roots proceeding from a single point on the back of the frond.

4. *L. gibba*, (*gibbous Duckweed*,) roots solitary; fronds obovate, flat above, hemispherical beneath. E. B. t. 1233.

HAB. Stagnant waters, but not frequent. In a pond near the road between Kingsteignton and Bishopsteignton. Fl. June. ☉

Size of *L. minor*, but easily distinguished by the much greater convexity of its lower surface, which is pellucid and cellular; the upper surface is plane and compact.

The plants of this singular genus are aquatics, mantling over the surface of still ponds and ditches; they form a connected mass of marginally proliferous fronds; from the centre of the lower surface of each proceeds one or more fibres, sheathed at the ends; the margins on each side have a cleft, from which proceeds either a single flower, as described in the generic character, or a round compressed gemma, which at length becoming a perfect frond, separates. The fructification is of rare occurrence, the latter being the most common mode of increase. Hook. Fl. Lond. New Series, p. 119, may be advantageously referred to.

### III. TRIANDRIA.

#### I. MONOGYNIA.

##### I. VALERIANA.

τ. Cor. spurred; stamen 1. (*Cetranthus* of Decandolle.)

1. *V. rubra*, (*red Valerian*,) leaves ovate lanceolate. E. B. t. 1531.

HAB. Old walls and buildings. Exeter, Dawlish, Ashburton, Teignmouth, Dartmouth, Tor Abbey, &c. Fl. June—September. ♀

Stems numerous, erect, glabrous, 12-18 inches high. The leaves as in all the genus, opposite; the flowers in a corymb.

ττ. Cor. gibbous at the base; stamens 3.

2. *V. officinalis*, (*great Valerian*,) leaves all pinnate; leaflets lanceolate, serrate, nearly uniform. E. B. t. 698.

HAB. Banks of streams, wet meadows, and hedges, frequent. Fl. June, July. ♀

3-5 feet high, with furrowed stems; the flowers are flesh-colour, in a broad dense branched head, and contain both stamens and pistils.

3. *V. dioica*, (*small marsh Valerian*,) radical leaves ovate, simple; those of the stem pinnatifid. Flowers dioecious. E. B. t. 628.

HAB. Wet meadows, occasionally. In a boggy field near Colyton. Marychurch, Rev. A. Neck. Holcombe Wood near Woodbury, Miss Filmore. Fl. May, June. 24

Stem 6-8 inches, erect; leaves more or less serrate. Flowers pale flesh-colour, on a densely crowded cyme.

## 2. FEDIA.

1. *F. olitoria*, (*Corn-sallad*,) flowers capitate; fruit roundish, inflated, tridentate. E. B. t. 811. (*Valeriana Locusta*.)

HAB. Hedges, corn-fields, &c. common. Fl. May, June. ☉

Stems dichotomous, about a foot high; leaves opposite, obovate, or oblong, radical ones spatulate. Flowers pale-blue, in terminal heads, having oblong bracteas, forming an involucre at the base.

2. *F. dentata*, (*narrow-fruited Corn-sallad*,) flowers corymbose, with a single flower in the upper division of the stem; fruit obpyriform, with three unequal teeth. E. B. t. 1370. (*Valeriana dentata*.)

HAB. Fields and hedge-banks, occasionally. Moreton, North Bovey, Lustleigh, &c. ☉

This plant differs from the preceding species in having a larger and more straggling stem, and narrower leaves, which are more frequently toothed; the flowers also are flesh-colour, and arranged in loose corymbs; the bracteas fewer and narrower, and the fruit differently shaped, with 5 ribs; and 3 terminal, almost foliaceous, teeth.

## 3. IRIS.

1. *Iris pseudacorus*, (*yellow Water-flag*,) stem roundish, compressed; perianth beardless; the inner segments erect, smaller than the petaliform stigmas. E. B. t. 578.

HAB. Ditches, streams, and marshy swamps, common. Fl. July. 24

Plant 3-5 feet high, with large, fleshy, horizontal, and very acrid roots, and ensiform leaves; the flowers are yellow, streaked with purple; the larger segments deflexed; the anthers lie beneath the arched and lacinated stigmas.

2. *Iris fetidissima*, (*stinking Flag*,) stem one-edged; perianth beardless; the inner segments spreading, larger than the stigma. E. B. t. 596.

HAB. Woods and hedges, frequent. About Exeter, Lympstone, Teignmouth, Marychurch, Chudleigh, Ilsington, &c. Banks of the Yeo, Dr. Wavell. Fl. June, July. 24

The stem 18-24 inches high, half-round; the leaves ensiform; the flowers greyish-blue, veined with black; scarcely higher than the leaves.

## 4. SCHŒNUS.

1. *S. albus*, (*white-headed Bog-rush*,) culm leafy, triangu-

lar; leaves linear, setaceous; flowers terminal, subcorymbose, as long as the involucre. E. B. t. 985.

HAB. Bogs. Bovey Heathfield, Woodbury Hill, Shute Common. Fl. July, August.  $\gamma$

Plant 6-8 inches high, with sheathing leaves and heads formed of 3 or 4 clusters of white flowers, collected in a sort of corymb.

2. *S. nigricans*, (*black Bog-rush*,) culm naked, rounded; flowers in a capitate, ovate cluster; involucre of two leaves, the exterior one longer than the flowers. E. B. t. 1121.

HAB. Bogs. Bovey Heathfield, Woodbury Hill. Moors near Clovelly, Dr. Wavell. Fl. June, July.  $\gamma$

Culms 10-12 inches high, firm and rigid; leaves setaceous, rigid, roughish, shorter than the culm; heads formed of several very dark purplish or brown spikelets.

## 5. SCIRPUS.

### a. Spike solitary.

1. *Sc. cespitosus*, (*scaly-stalked Club-rush*,) culm round, striate, sheathing, two outer glumes foliaceous at the apex, as long as the spike; stigmas 3. E. B. t. 1029.

HAB. Boggy downs, common. Fl. July.  $\gamma$

Grows in dense, firmly-rooted tufts; the culms 3-6 inches high, simple, glabrous, springing from a scaly base; the upper sheaths terminate in very short leaves; the spikes are small, ovate, and ferruginous.

2. *Sc. palustris*, (*marsh Club-rush*,) culm round, naked, with leafless sheaths at the base; spike oblongo-ovate, naked; stigmas 2. E. B. t. 131.

$\beta$ . *minor*, smaller spikes with fewer flowers; glumes deeper brown. (*Sc. multicaulis*.) E. B. t. 1187.

HAB. Bogs, frequent.  $\beta$ . near the coal-pits on Bovey Heathfield. Fl. July.  $\gamma$

The plant tufted with numerous fertile and barren stems, 8-15 inches high, having simple entire sheaths at the base; spike brownish, many flowered, the margins scariose; fruit crowned by the swelling base of the stigma, and surrounded by four or five bristles.

3. *Sc. acicularis*, (*least Club-rush*,) culm grooved, sheathed at the base; spike ovate, acute, naked; glumes acuminate; stigmas 3. E. B. t. 749.

HAB. Streams at Rora, near Ilstington.  $\gamma$

Slender, delicate, tufted, with barren and fertile setaceous stems, 3-4 inches high; the spikes small, pale brown, with a broad green nerve.

### rr. Culms branched.

4. *Sc. fluitans*, (*floating Club-rush*,) culm rounded, weak, leafy; stigmas 2. E. B. t. 216.

HAB. Ponds and slow streams, frequent. Bovey Heathfield, In the river Webber near Buckland-in-the-Moor, Holwell Bottom near Manaton, streams at Ilington, &c. Fl. July. 24

Plant grows with a weak branching habit in the water; it has creeping roots; stems 6-18 inches long; linear short sheathing leaves, that float on the surface; and a small pale 3-4 flowered spike, the glumes of which are greenish with a whitish scarioso margin.

b. Spikelets 2, or more.

τ. Culm rounded.

5. *Sc. lacustris*, (*Bull-rush*), upper sheaths leafy; involucre 2-leaved; panicle terminal, twice compound. E. B. t. 666.

β. *glaucus*, smaller and glaucous. E. B. t. 2321. (*Sc. glaucus*.)

HAB. Banks of streams and ponds. In the rivers Exe, Clyst, and Plym.

β. Ditches near Powderham. Fl. July. 24

Root creeping; culm 3-8 feet, tapering above; lower sheaths brown, leafless; upper ones ending in a linear subulate channelled leaf, 3 or 4 inches long; the glumes are brown, fringed, and often emarginate; the nerve forming a mucro in the notch; stigmas 2-3; fruit surrounded by six bristles.

6. *Sc. holoschænus*, (*round-headed Club-rush*), culm naked; involucre of two unequal leaves; the crown one-channelled; flowers in globose heads, sessile or pedunculate. E. B. t. 1612.

HAB. Salt-marshes. Braunton Burroughs, Ray, Rev. Dr. Goodenough; it is now probably exterminated by draining and cultivation, as a search for it in the summer of 1820 was unsuccessful. Fl. August—November. 24

Root horizontal; culms 2-3 feet high, tufted; sheaths 3-4, alternate, brown; heads 5-8, on an unequal divaricating panicle; stamens 3.

7. *Sc. setaceus*, (*setaceous Club-rush*), culms setaceous, terminating in a single involucre; spikelets 2. E. B. t. 1693.

HAB. In wet, marshy, and gravelly situations, frequent. Fl. July, August. ☉

Plant 3-6 inches high; culms slender, striate, tufted; leaves 1 or 2, with sheathing bases; involucre dilated at the base, appearing as if a continuation of the culm, with lateral fructification; spikelets mostly 2, occasionally 1 or 3; glumes broadly acute, brown, with green nerve and margins; stamens 2; stigmas 3; fruit striate.

ττ. Culm triangular.

8. *Sc. maritimus*, (*salt-marsh Club-rush*), culm leafy; spikelets sessile and pedunculated, in a terminal cluster; involucre many, foliaceous; glumes notched, mucronate. E. B. t. 542.

HAB. Salt-marshes, not unfrequent. Exe and Clyst rivers near their junction, abundant. Fl. July. 24



Root creeping, culm 2-3 feet high, leafy, tufted, rough at the angles, leaves linear, acute, mostly longer than the culm; spikelets large, ovate, reddish brown; fruit with 2-4 bristles at the base.

9. *Sc. sylvaticus*, (*wood Club-rush*,) culm leafy; spikelets in a repeatedly compound cyme; involucre of many foliaceous leaflets; glumes entire. E. B. t. 919.

HAB. Banks of streams, occasionally. Exon Brook, a little above the bridge; banks of the Teign near Chudleigh-bridge; Kingsteignton; banks of the Mew, near the Weargate. Fl. July. 21

Culm 2-3 feet, very leafy; leaves linear, broad, acuminate, scabrous at the margin, longer than the culm; involucre of 3-4 leaflets, one usually longer than the cyme; spikelets numerous, small, greenish; stigmas 3.

Note.—*Scirpus palustris* and *Sc. acicularis* belong to the genus *Eleocharis* of Brown. *Sc. fluitans*, *holoschaenus* and *setaceus* to the genus *Isolepis* of the same author. The fruit being crowned with the hardened style, and almost constantly furnished with bristles at the base, characterize the former; an unarticulated, deciduous style, and the fruit having no bristles at the base, the latter genus.

## 6. ERIOPHORUM.

1. *E. vaginatum*, (*single-headed Cotton-grass*,) culm triangular above; spike solitary, ovate. E. B. t. 873.

HAB. Dartmoor, common. Haldon, Mr. Jacob. Bogs between Clovelly and Kilkhampton, Dr. Wavell. Fl. April, May. 21

Plants tufted, 12-18 inches high; culm, when in flower, shorter than the leaves, in fruit much longer; leaves compressed, channelled, sheathing; upper sheaths with gradually shorter leaves, the uppermost leafless; spike large, thin, membranaceous, silky hairs of the seed twice its length.

2. *E. angustifolium*, (*common Cotton-grass*,) culm subtriangular; leaves linear, grooved; spikes many, pedunculate, shorter than the involucre. E. B. t. 564.

HAB. In boggy places, common. Fl. April, May. 21

Culms 12-18 inches high, tufted, rounded below, subtriangular above; spikes 3-5, on simple peduncles of different lengths.

3. *E. polystachion*, (*broad-leaved Cotton-grass*,) culm round; leaves flat; spikes pedunculated. E. B. t. 563.

HAB. Dartmoor, in the bed of Craumere-pool. Fl. April. 21

Roots fibrous; culm erect, round, leafy, smooth; leaves shorter than the culm, flat, linear, lanceolate, sharp towards the top; the spikes are numerous and large, on elongated peduncles, nodding.

## 7. NARDUS.

1. *N. stricta*, (*Mat-grass*,) spike erect, setaceous; the florets pointing one way. E. B. t. 290.

HAB. Moors, heaths, &c. common, often forming a principal part of the turf. Fl. June. 21



HAB. Lidford Fall. Fl. June. 24

This grass has slender, erect, smooth, leafy culms, 3-4 feet high, bearing a delicate, lax, diffuse panicle; the cartilaginous concave valves of the corolla at length closely invest the seed, which is the chief character distinguishing this from the genus *Agrostis*.

2. *M. lendigerum*, (*panick Millet-grass*,) panicle spiked; flowers awned. E. B. t. 1107.

HAB. By the Parsonage Style, Lympstone. Babbacombe Cliffs, Mr. Jacob. Near Instow, Mr. Curtis. Fl. July, Aug. ☉

4-8 inches high, leafy, with a compact lanceolate panicle; cal. swelling at the base, the longer valve awn-pointed, and larger than the cor., one valve of which terminates in 4, the other in 2 small teeth.

### 13. AGROSTIS.

1. *A. canina*, (*brown Bent-grass*,) leaves linear; panicle with long, slender, erecto-patent branches; cal. valves unequal, lanceolate, rough at the back; cor. of 1 valve, with a dorsal awn from below the middle. E. B. t. 1856.

HAB. Heathy downs and pastures, frequent. Fl. June, July. 24

The culms of this grass are 1-2 feet high, and tufted; the circumstance of the corolla having but a single valve induced the formation of the genus *Trichodium*.

2. *A. setacea*, (*bristle-leaved Bent-grass*,) leaves setaceous; panicle with short erect branches; cal. valves unequal, lanceolate, rough at the back; cor. outer valve with a longish awn from the base; inner one minute, ovate. E. B. t. 1188.

HAB. On exposed downs, in various parts of the country, common. Fl. July, Aug. 24

Of a stiff rigid habit, 8-16 inches high, with tufted glaucous leaves; the outer valve of the cor. has 4 nerves, the 2 outer of which terminate in short teeth; an awn springs from the base, exceeding in length the larger valve of the cal.

3. *A. vulgaris*, (*fine Bent-grass*,) panicle smoothish, with diverging branchlets; cor. awnless, the outer valve 3-nerved, twice the length of the inner bifid one; stipule short, obtuse. E. B. t. 1671.

β. Outer valve of the cor. awned.

HAB. Meadows, pastures, &c. common. Fl. June, July. 24

Root creeping; culm erect, smooth, 1-2 feet high; panicle purplish. *A. pusilla* of Hudson and Lightfoot is a dwarf variety of this.

4. *A. alba*, (*marsh Bent-grass*,) panicle branches hispid; branchlets patent; cor. with the outer valve 5-nerved; ligule oblong. E. B. t. 1189. (*A. alba*,) and 1532. (*A. stolonifera*.)

HAB. Fields and hedges, common. Fl. July. 24

Generally a larger and stouter plant than the last. There has been much confusion respecting the distinguishing characters of *A. vulgaris*, *alba*, and *stolonifera*. In *A. vulgaris* the panicle branches are smoothish, and the outer valve of the cor. 3-nerved. In *A. alba* the panicle branches are hispid, and the outer valve of the cor. 5-nerved. These differences, as far as our observations extend, are pretty constant. *A. stolonifera*, which is the *Fiorin* of agriculturists, we consider a var. of *A. alba*, differing only in the rougher glumes and more compact panicle.

#### 14. ARUNDO.

τ. Calyces 1-flowered. (*Calamagrostis*.)

1. *A. calamagrostis*, (*wood Reed*,) leaves linear, acuminate; panicle erect, diffuse; cor. shorter than the cal. and awned on the back. E. B. t. 2159.

HAB. In moist shady situations. Exwick Wood, Mr. Jacob. July. 24

2-3 or more feet high, with glabrous, shining, purple brown calyces, and tufts of silky hairs, which, when in full blossom, are very obvious.

2. *A. arenaria*, (*sea-side Reed*,) leaves involute, pungent; panicle spiked; cor. awnless, length of the cal. 3 times the length of the tuft of hairs. E. B. t. 107.

HAB. On various sandy parts of the coast, frequent. Exmouth Warren, Teignmouth, &c. July. 24

This plant, so useful in binding the loose sea-side sands, is 2-3 feet high, glaucous, with a very creeping root, and compactly spiked panicle, which tapers at each end, and a rigid nerved cor. with large purple anthers.

τ τ. Calyces many-flowered. (*Arundo*.)

3. *A. phragmites*, (*common Reed*,) cal. about 5-flowered, shorter than the florets. E. B. t. 401.

HAB. In watery situations, frequent. In various parts of the rivers Clyst, Teign, &c. Fl. July. 24

6-8 feet high, with broad, lanceolate, attenuated leaves, and large, lax, purple, brown panicle; the cal. valves are very unequal, and each floret has a large tuft of white silky hairs at the base.

#### 15. HOLCUS.

1. *H. avenaceus*, (*oat-like Soft-grass*,) root knotted; cal. glumes unequal; perfect floret superior, imperfect one with a long jointed awn. E. B. t. 1813. (*Arrhenatherum* of Beauvois.)

HAB. Fields and hedges, common. Fl. June, July. 24

2-4 feet high, with linear acuminate leaves, and long loose panicle, with greenish-brown spikelets; has the habit of an *Avena*.

2. *H. mollis*, (*creeping Soft-grass*,) root creeping; cal. glumes sub-equal; perfect floret inferior, awnless; imperfect one with a bent awn, reaching beyond the cal. E. B. t. 1170.

HAB. Meadows and pastures, common. Fl. June, July. 2

About 2 feet high, hairy, having linear, lanceolate, acute, sheathing leaves, and ovate spikelets, with a protruding awn. This, together with the creeping root, distinguishes it chiefly from the next.

3. *H. lanatus*, (*meadow Soft-grass*,) root fibrous; cal. glumes equal; perfect floret inferior, awnless; imperfect one with a curved unprotruded awn. E. B. t. 1169.

HAB. Meadows, pastures, &c. common. Fl. June, July. 2

Resembles the last, but is covered with a larger and softer pubescence, and has generally a larger panicle.

#### 16. AIRA.

1. *A. cristata*, (*crested Hair-grass*,) leaves hairy; panicle spiked, florets longer than the cal. E. B. t. 648. With. Bot. Arr. v. ii. p. 145, (*Poa cristata*,) (*Koeleria* of Persoon.)

HAB. Ingsdon Lime Quarry, Ilstington. Fl. June, July. 2

Tufted, 6-12 inches high, erect, with short linear, glaucous leaves, and densely spiked, shining oblong panicle: the calycine glumes are unequal, lanceolate, acute, nerved, and with a roughish keel; the inner valves of cor. white and membranaceous.

2. *A. caespitosa*, (*turfy Hair-grass*,) leaves plane; panicle diffuse, branches scabrous; florets rather longer than cal. villous at the base; awn straight, inserted near the base of, and not exceeding the cor. E. B. t. 1453.

HAB. In moist situations, common. Fl. July, August. 2

2-4 feet high, much tufted; leaves plane, linear, acuminate, smooth beneath, rough at the margin; panicle large, lax, elegant, diffused, silvery grey, much branched, with numerous small acute spikelets; cal. glumes unequal, broad, obtuse; florets much larger than the cal.

3. *A. flexuosa*, (*waved Hair-grass*,) leaves setaceous; panicle, when flowering, diffuse; florets villous at the base, as long as the cal.; awn jointed, inserted near the base, much longer than the cor. E. B. t. 1519.

HAB. Woods, heaths, &c. common. Fl. July. 2

Culms 12-18 inches, erect, smooth; leaves short, and mostly radical; panicle lax, few-flowered, with forked, flexuose, rough, capillary branches.

4. *A. caryophyllea*, (*silver Hair-grass*,) leaves setaceous; panicle divaricate; florets scarcely villous at the base, shorter than the cal.; awn inserted below the middle, jointed, longer than the cal. E. B. t. 812.

HAB. Hills, pastures, &c. common. Fl. June, July. 2

4-12 inches; leaves short, few; panicle trichotomous; florets silvery-grey; cal. valves sub-equal, lanceolate, the upper part pellucid and white; cor. valves whitish, scariose, half the length of the awn.

5. *A. præcox*, (*early Hair-grass*,) leaves setaceous; panicle somewhat spiked; glumes all sub-equal; awn from near the base longer than the cal. E. B. t. 1296.

HAB. Sandy sterile situations, common.

3-6 inches, panicle few-flowered, silvery-green.

### 17. MELICA.

1. *M. nutans*, (*mountain Melic-grass*,) panicle racemed; spikelets secund, drooping; cal. 2-flowered. E. B. t. 1059.

HAB. In a wood near Dolton, Dr. Wavell, as quoted in Polwhele: this is the only authority we are acquainted with for the plant in this county. Fl. May, June. ♀

Culms 12-18 inches high, slender and leafy; leaves linear, lanceolate; cal. glumes ovate, very concave, deep purple-brown; those of the cor. unequal, rigid, and nerved; there is the rudiment of a third floret between the other two.

2. *M. uniflora*, (*wood Melic-grass*,) panicle branched, inclined; spikelets erect, with only one perfect floret. E. B. t. 1058.

HAB. Woods and hedges, in various parts of the county, frequent. Il-sington, Ashburton, Lustleigh, Chudleigh, Lidford Fall, &c. Fl. May—July. ♀

The leaves are broader, and the whole plant larger than the last; the imperfect flower is supported on rather a long footstalk.

3. *M. cærulea*, (*purple Melic*,) panicle long, erect, contracted; spikelets erect, oblong, cylindrical. E. B. t. 750. Moenck in Kæl. Gram. 145. (*Monilia*.)

HAB. Heaths and downs in various parts of the county, frequent. Bovey Heathfield, Dartmoor, Haldon, &c. Fl. July, August. ♀

Culms 1-2 feet high, much tufted, rigid, glabrous; panicle 2-5 inches long, purple and branched; leaves all springing from the base, or the single joint, just above it.

### 18. POA.

#### τ. Spikelets linear.

1. *P. aquatica*, (*reed Meadow-grass*,) leaves broad; panicle erect, much branched; spikelets of about 6 obtuse florets, outer valves of which are 7-ribbed. E. B. t. 1315.

HAB. Tor Abbey Meadow. Rev. A. Neck. Fl. June. ♀

3-6 feet high, erect, with a creeping root; the panicle large and lax.

2. *P. fluitans*, (*floating Meadow-grass*,) root creeping; panicle sub-erect, forming a very long lax spike; spikelets appressed, 7-12 flowered, the outer valves of which are 7-ribbed, with short intermediate ones at the base. E. B. t. 1520.

HAB. Ditches, slow streams, &c. frequent. Fl. June—August. ☿

Plant with a long creeping root, and thick succulent culms, rooting at the base, and partly prostrate; the leaves are linear-lanceolate, the lower ones floating, and all with long smooth sheaths; the spikelets are alternate on short peduncles, and quite linear; the seed of this grass is the manna-seed of the shops: (forms the genus *Glyceria* of Brown, characterized by the divided stigmas, and small fleshy scale at the base of the germen.)

3. *P. maritima*, (*creeping Sea Meadow-grass*,) root creeping; leaves involute; panicle erect, sub-contracted; spikelets with about 5 florets, the outer valves of which are 5-nerved and obtuse. E. B. t. 1140.

HAB. Courtland Lodge, between Lympstone and Exmouth; Teignmouth. Braunton Burroughs, Dr. Wavell. Fl. July. ☿

4. *P. distans*, (*reflexed Meadow-grass*,) root fibrous; leaves plane; panicle divaricate, at length deflexed; spikelets of about 5 obtuse florets, the outer valves of which are obsoletely 5-nerved. E. B. t. 986.

HAB. Sandy spots about Exmouth. Near Topsham, Mr. Jacob. Fl. June—August. ☿

About a foot high, with the panicle branches singularly deflexed, and slender; the spikelets are much smaller, and the glumes softer than in the last species.

5. *P. procumbens*, (*procumbent Sea Meadow-grass*,) panicle compact, ovato-lanceolate, secund; spikelets of about 4 florets, the outer valves of which are 5-ribbed. E. B. t. 532.

HAB. In salt-marshes, occasionally. Parsonage Style, Lympstone. Fl. June, July. ☉

Culms procumbent, glaucous, 6-12 inches long; the panicle branches patent, distichous; calyx valves smaller than the florets, strongly ribbed, and distant on the rachis.

6. *P. rigida*, (*hard Meadow-grass*,) root fibrous; panicle lanceolate, distichous, secund; spikelets about 7-flowered; florets ribless. E. B. t. 1371.

HAB. Walls, rocks, dry pastures, &c. frequent. Fl. June. ☉

A rigid, wiry plant, 3-7 inches long, with linear, setaceous leaves, and an angular, and for the most part, branched rachis.

7. *P. compressa*, (*flat-stalked Meadow-grass*,) root creeping; culm compressed; panicle sub-sekund, coarctate before



and after flowering; spikelets of about 6 obtuse florets, connected by a web. E. B. t. 365.

HAB. Near the church-yard, Ilington; near Chudleigh; in a brick-field at Nutwell, near Lymington. Fl. June—August. ♀

A foot or more high, subglaucous, culm procumbent at the base; panicle varies much in size and compactness; the outer valve of the cor. is obsoletely ribbed.

8. *P. bulbosa*, (*bulbous Meadow-grass*,) root fibrous; culm bulbous at the base; panicle subflexuose; spikelets 4-flowered, florets webbed at the base. E. B. t. 1071.

HAB. Teignmouth Den, plentiful. Fl. May, June. ☉

8-12 inches high, with short, plane leaves, and slender panicles; spreading before flowering, and afterwards contracted.

#### ττ. Spikelets ovate.

9. *P. trivialis*, (*roughish Meadow-grass*,) root fibrous; culm and sheath roughish; ligule oblong; panicle spreading; spikelets of about 3 florets; the outer valves of which are 5-nerved, and webbed at the base. E. B. t. 1072.

HAB. Hedges, meadows, pastures, &c. common. Fl. June, July. ♀

1-2 feet high, with linear-acute leaves, which are roughish beneath.

10. *P. pratensis*, (*smooth-stalked Meadow-grass*,) root creeping; culm and sheath smooth, ligule short; panicle spreading; spikelets of about 4 florets, their outer glumes 5-nerved, and webbed at the base. E. B. t. 1073 and 1004. (*P. subcærulea*.)

HAB. Meadows, pastures, &c. common. Fl. June, July. ♀

The *P. subcærulea* of Eng. Bot. appears to be a small starved variety of this, having a glaucous tinge, and fewer florets on the panicle. This species and the last, though possessing characters sufficiently distinct, are very similar in habit and general appearance.

11. *P. annua*, (*annual Meadow-grass*,) root fibrous; culm ascending, compressed; panicle subsecund, divaricate; spikelets of about 5 subremote flowers, with their outer valves 5-ribbed, and webless. E. B. t. 1141.

HAB. Fields, hedges, and waste places, common. Fl. April—October. ☉

Culms 6-12 inches, numerous, ascending, smooth, branching at the base, and rooting at the joints; leaves linear, bluntish, bright-green; ligule oblong, acute; panicle erect, pale-green.

#### 20. TRIODIA.

1. *T. decumbens*, (*decumbent Meadow-grass*,) panicle subsimple, few flowered; cal. as long as the 4-flowered spikelet, E. B. t. 792. (*Poa decumbens*.)

HAB. Dry pastures, Haldon, Hightor Down, Ashburton Down, &c. Fl. June, July.  $\mathcal{U}$

Culms 6-12 inches high, numerous, decumbent; flowering culm only erect; leaves linear, acuminate; cal. valves subequal, lanceolate, acute, nerved, with broad thin margins; exterior valve of cor. with a small tuft of hairs each side the base.

## 21. BRIZA.

1. *B. media*, (common *Quaking-grass*,) panicle diffuse; spikelets broadly ovate, of about 7 florets, which are longer than the cal. E. B. t. 340.

HAB. Dry pastures, &c. not unfrequent. Fl. June.  $\mathcal{U}$

Culms 10-12 inches, slender, erect, and smooth; leaves short, linear, acuminate; panicle much branched; the spikelets smooth, shining, purple, tremulous; edges of the florets green, or greenish white; inner valves of the cor. minute.

## 22. DACTYLIS.

1. *D. glomerata*, (rough *Cock's-foot-grass*,) leaves plane, scabrous; panicle crowded, secund. E. B. t. 335.

HAB. Fields, &c. common. Fl. July.  $\mathcal{U}$

1-2 feet high: spikelets of 3-4 flowers, thickly clustered on the branches; cor. with the exterior valve lanceolate, compressed, ribbed, ciliated on the keel, and shortly awned at the point; interior valve bifid at the end.

## 23. CYNOSURUS.

1. *C. cristatus*, (crested *Dog's-tail-grass*,) spike linear, secund; florets shortly awned. E. B. t. 316.

HAB. Dry fields, &c. common. Fl. June, July.  $\mathcal{U}$

Culms tufted, erect, about a foot high, smooth; leaves narrow, linear, acuminate; spikelets 3-5 flowered.

## 24. FESTUCA.

1. *F. ovina*, (sheep's *Fescue-grass*,) culm square above; leaves setaceous; panicle subsecund, subcoarctate; spikelets of about 4-5 florets, with short awns. E. B. t. 585 and 1917. (*F. cæsia*.)

HAB. Dry hilly pastures, and downs, common. Fl. June, July.  $\mathcal{U}$

Culms 4-8 inches; leaves short, mostly curved, smooth, tufted, whole plant more or less glaucous, with a purple tint in the spikelets.

2. *F. duriuscula*, (hard *Fescue-grass*,) radicle leaves subsetaceous; stem leaves nearly plane; panicle subsecund, subcoarctate; spikelets with about 6 flowers, with short awns. E. B. t. 470.

$\beta$ . with a creeping root.



HAB. Dry pastures. Exmouth and Teignmouth sands.

This and the last agree in so many particulars, that it is difficult to distinguish in precise terms. *F. duriuscula*, however, is generally two or three times the size of the former, and the upper leaves are more or less plane. Several varieties of these two have been arranged as species, certainly without sufficient grounds; both vary in degrees of roughness, pubescence, &c.

3. *F. bromoides*, (*barren Fescue-grass*,) culm leafless above; panicle erect, secund, racemose; flowers shorter than the awn, monandrous. E. B. t. 1411.

HAB. Walls, sandy places, &c. common. Fl. June. ☉

Culms 6-12 inches, erect, smooth; leaves linear, setaceous, angular; spikelet with about 6 florets.

4. *F. myurus*, (*wall Fescue-grass*,) culm leafy above; panicle secund, elongate, contracted, rather drooping; flowers shorter than the awn, monandrous. E. B. t. 1412.

HAB. Walls and sterile situations, less frequent than the last. Chudleigh; Bovey Tracey. Fl. June. ☉

Resembles the last very much, but is taller, and the panicle longer, and more drooping; the leaves too are rather broader than the last, and clothe the culm frequently to the base of the panicle.

5. *F. uniglumis*, (*single-husk Fescue-grass*,) panicle subsimple, erect, secund; flowers shorter than the awn, the inner valve minute. E. B. t. 1411. Huds. Fl. Ang. 55. (*Lolium bromoides*.) Gray Nat. Arr. p. 124. (*Vulpia bromoides*.)

HAB. Exmouth sands. Fl. June. ☉

Root fibrous: culms 6-8 inches high, angular, branched, leafy; leaves subinvolute, smooth, their sheaths long and smooth.

6. *F. gigantea*, (*tall Fescue-grass*,) leaves lanceolate, ribbed; panicle branched, spreading, drooping towards one side; spikelets compressed, 3-6 flowered, flowers shorter than the awn. E. B. t. 1820 and 1918. (*F. triflora*.)

HAB. Woods and hedges, frequent. Fl. July, Aug. ♀

Culm 3-4 feet, erect, glabrous and leafy; leaves broad, erect, rough above, shining beneath; has the habit of a *Bromus*, but the inner valve of the cor. is not ciliated, as in the species of that genus. *F. triflora* of E. Bot. has a more erect and slender panicle, and narrower leaves.

7. *F. loliacea* (*spiked Fescue-grass*,) spike distichous, elongate; spikelets alternate, linear, sessile, many-flowered; florets cylindrical, awnless. E. B. t. 1821.

HAB. In wet meadows and pastures, not unfrequent. Ilington, Moreton, Ashburton, &c. Fl. June, July. ♀

Plant with erect simple culms, 1-2 feet high; short, linear, acute leaves, flexuose rachis; 5-6 flowered spikelet, and unequal, acute, calycine valves. It has much the habit of *Lolium perenne* and *Poa fluitans*, distinguished from the former by the 2-valved calyx; and from the latter by the nerveless sub-acute glumes.



8. *F. pratensis* (meadow *Fescue-grass*,) root fibrous; panicle patent, branched; spikelets linear, many-flowered; florets cylindrical, awnless. E. B. t. 1592.

HAB. Moist pastures, common. Fl. June, July. ♀

With many glabrous culms, 1-2 feet high. Distinguished from the last by the branched panicle.

9. *F. elatior*, (tall *Fescue-grass*,) root creeping; panicle large, patent, much branched; spikelets ovato-lanceolate, many flowered; florets cylindrical, sub-aristate. E. B. t. 1593.

HAB. Teignmouth, Shaldon, Dawlish, Torquay, &c. Fl. June, July. ♀

Has the habit of the last, but is 2 or 3 times the size in every part.

## 25. BROMUS.

### τ. Flowers in a spike.

1. *B. pinnatus* (spiked *Wood Brome-grass*,) spikelets linear, erect, sessile, forming a distichous, sub-erect spike; florets longer than the awn. E. B. t. 730.

HAB. Fields, &c. frequent. Chudleigh, Ingsdon near Ilington, Bovey Tracey, Ashburton. Fl. June, July. ♀

Culms about 2 feet, erect, smooth, leafy; leaves sub-erect, linear, lanceolate, mostly destitute of hairs; spikelets with 8-12 closely imbricated flowers; differs from the next in the erect spike, the longer and more numerous spikelets, the less hairy leaves, and their smooth sheaths.

2. *B. sylvaticus* (slender *Wood Brome-grass*,) spikelets linear, erect, sessile, forming a distichous slightly drooping spike; florets shorter than the awn. E. B. t. 729.

HAB. Chudleigh Rocks, and neighbouring woods. Fl. July. ♀

Culms 1-3 feet high, slender, erect, and glabrous; leaves broadish, spreading and hairy; spikelets pubescent, 5-8.

### ττ. Flowers in a branched panicle.

3. *B. secalinus* (smooth *Rye Brome-grass*,) panicle spreading; peduncle sub-simple; spikelets ovate, compressed, of about 10 cylindrical, glabrous, rather remote, florets, longer than the awn. E. B. t. 1171.

HAB. Fields, occasionally. Topsham, in a field behind the town. Near Beckey Fall. Fl. July—August. ☉

2-3 feet high, leaves rather hairy. When the seeds ripen, the upper spikelets are pendulous, and the florets exhibit most distinctly the distant mode of insertion, which chiefly characterises this species. *B. velutinus*, of which is *B. multiflorus* of E. B. t. 1884, if really distinct, we have not met with; it differs in having a longer awn and pubescent glumes; characters probably not constant.

4. *B. mollis*, (*soft Brome-grass*,) leaves very soft and pubescent; panicle erect, branched, close; spikelets ovate, subcompressed, imbricated, pubescent; awn straight, about as long as the glume. E. B. t. 1078.

HAB. Pastures, &c. common. Fl. June. ♂

Culms 1-2 feet high; joints swelling and downy; panicle 3 or 4 inches; spikelets sub-erect, with 5-10 florets; the exterior valve of the cor. is convex, but by no means forming a cylindrical floret like the last.

5. *B. racemosus*, (*smooth Brome-grass*,) leaves slightly hairy; panicle erect; spikelets ovate, subcompressed, on simple peduncles; florets imbricate, smooth; awn length of the glume. E. B. t. 1079.

HAB. In a field at Ilington. Fl. June, July. ☉

Differs from the last, which it closely resembles in the more simple panicle, glabrous spikelets, and less downy leaves. *B. pratensis*, E. B. t. 920, is, perhaps, only a var. of this, the plant differing only in being more downy, and having narrower spikelets.

6. *B. arvensis*, (*tapering Field Brome-grass*,) leaves hairy; panicle spreading; spikelets lanceolate, compressed, on branched peduncles; florets imbricated, depressed, glabrous, length of the awn. E. B. t. 1984.

HAB. Fields, occasionally. Kingsteignton and Bishopsteignton. ☉

Plant 2-3 feet high, with a rather large but slender, and at length drooping panicle; the spikelets are about 8-flowered, and have a purple tinge.

7. *B. asper*, (*hairy Brome-grass*,) leaves uniform, the lower ones hairy; panicle branched, drooping; spikelets linear, lanceolate, compressed; florets cylindrical, remote, hairy, longer than the straight awn. E. B. t. 1172.

HAB. Hedges, frequent. Fl. June, July. ♀?

4 or 5 feet high, with broad, spreading, hairy leaves; and spikelets with 8 or 9 florets.

8. *B. sterilis*, (*barren Brome-grass*,) leaves downy; panicle drooping, sub-simple; spikelets linear, lanceolate, on long peduncles; florets remote, shorter than the awn. E. B. t. 1030.

HAB. Woods and hedges, common. Fl. June, July. ☉

Distinguished by its very large, graceful, drooping panicle, and long, narrow, and much-awned spikelets.

9. *B. diandrus*, (*upright annual Brome-grass*,) leaves subglabrous; panicle erect; spikelets linear, lanceolate, on rather short sub-simple peduncles; florets remote, about as long as the straight awn; stam. mostly 2. E. B. t. 1006. Gray Nat. Arr. p. 117. (*Zerna madritensis*.)



HAB. Bartholomew Yard, and on various parts of the old city walls, Exeter. Fl. June, July. ☉

12-18 inches high, allied to the last species, but has a smaller panicle, erect, or but slightly spreading, and frequently with a purplish tinge.

## 26. AVENA.

1. *A. fatua*, (*Wild-Oat*,) root fibrous; panicle erect; spikelets drooping, of about 3 florets; floret smaller than the cal. hairy below. E. B. t. 2221.

HAB. Tillage fields, occasionally; Ingsdon, near Hsington; fields at Lustleigh. Fl. July, August. ☉

2-3 feet high, with linear, lanceolate leaves; large membranous ribbed cal.; long, fulvous, bifid hair on the exterior valve of the cor., and a long twisted awn.

2. *A. pratensis*, (*narrow-leaved Oat-grass*,) leaves glabrous, serrulate, lower ones involute; raceme erect, simple; spikelets about 5-flowered, longer than the cal. E. B. t. 1204.

HAB. On dry calcareous pastures. Ashburton, Newton Bushell, Ingsdon, Chudleigh, &c. Fl. July. ♀

Distinguished by the short leaves and racemed spikelets.

3. *A. flavescens*, (*yellow Oat-grass*,) root creeping; panicle lax, patent, branched; spikelets 3-flowered, longer than the cal. E. B. t. 952. Gray, 2. p. 129. (*Trisetum*.)

HAB. Frequent in various parts of the county. Chudleigh, Christowe, Hsington, Ashburton, Kingsteigton, &c.

12-18 inches high, with short plane leaves, and numerous small yellow-green spikelets; outer valve of the cor. with 5 short acuminate points; awn twice the length of the valve. The smallest British oat.

## 27. TRITICUM.

### τ. Spike distichous.

1. *T. junceum*, (*Sea rushy Wheat-grass*,) root creeping; leaves involute, pungent; cal. valves obtuse, ribbed, containing 4-5 awnless florets. E. B. t. 814.

HAB. Exmouth, Dawlish, Teignmouth, &c. Fl. July. ♀

A glaucous rigid plant, 1-3 feet high, with distant, sessile, oblong, much compressed spikelets. (*Agropyrum* of Gray Nat. Arr. 2. p. 94-96.)

2. *T. repens*, (*Couch-grass*,) root creeping; leaves plane; cal. valves nerved, with from 4-8 sub-awned flowers. E. B. t. 909.

HAB. Fields and waste places, common. Fl. June-October. ♀

Culms 2-3 feet, erect, leafy; glaucous when growing near the sea, when in

some respects it resembles the last, but is readily distinguished by the plane leaves, and the smaller and less compressed spikelets.

3. *T. caninum*, (*fibrous Wheat-grass*,) root fibrous; leaves plane; cal. valves acute, about 5-nerved, with about 4 awned florets. E. B. t. 1327.

HAB. Hedges and woods, occasionally. In a field near Ingsdon; field at Rora; in a field near the sea, at Exmouth. Fl. July. 24

The fibrous root best distinguishes this species from the preceding; besides this, it has generally a longer and more slender spike, and the florets have much longer awns.

#### rr. Spike secund.

4. *T. loliaceum*, (*dwarf Sea Wheat-grass*,) root fibrous, annual; cal. valves obtuse, containing many awnless florets. E. B. t. 221.

HAB. On the coast near Babbicombe. Fl. June, July. ☉

A remarkably rigid wiry plant, 3-4 inches high, with linear plane leaves, and more or less distant secund spikelets, on very short peduncles.

#### 28. LOLIUM.

1. *L. perenne*, (*Darnel, or Rye-grass*,) root perennial; spikelets longer than the cal. compressed; florets awnless. E. B. t. 315.

HAB. Pastures, &c. common. Fl. June, July. 24

1-2 feet high, glabrous, with smooth linear leaves; spike simple, which, from luxuriance, becomes occasionally compound. The *Heaver* of our western agriculturists.

2. *L. temulentum*, (*bearded Darnel*,) root annual; spikelets shorter than the cal.; florets about as long as the rigid awn. E. B. t. 1124.

HAB. In corn-fields, occasionally; fields at Ilsington; Chudleigh; near Woodbury. Fl. August. ☉

2 feet high, often rough above; spikelets distant, with about 6 elliptical florets, rather obscurely ribbed. The seeds are said to possess an intoxicating and poisonous quality.

#### 29. ELYMUS.

1. *E. arenarius*, (*upright Sea Lime-grass*,) leaves involute, rigid; spike upright, dense; spikelets pubescent; florets awnless, as long as the cal. E. B. t. 1672.

HAB. Exmouth Sands. Miss Filmore. Fl. July. 24

3-4 feet high, glabrous, with a very creeping root, and pungent glaucous leaves; the spike 4-6 inches long; the spikelets geminate of about 3 flowers, and distantly disposed on the rachis.

## 30. HORDEUM.

1. *H. murinum*, (*Wall-Barley*,) cal. valves of the intermediate floret linear, lanceolate, ciliated; those of the lateral florets setaceous, scabrous. E. B. t. 1971. Gray Nat. Arr. 2. p. 90. (*Zeocriton*.)

HAB. Frequent in various parts of the county. Exeter, Topsham, Lympstone, Dawlish, Teignmouth, &c. Fl. June, July. ☉

Culms about a foot high, decumbent at the base, then erect, glabrous, leafy; leaves acute, rough; spikelets distichous and imbricate; all the calyx glumes with rough long awns.

2. *H. maritimum*, (*Sea-Barley*,) cal. valves smoothish; interior one, of the lateral florets, semi-lanceolate, the rest setaceous. E. B. t. 1205.

HAB. Exmouth Sands. Fl. July. ☉

8-10 inches high, glaucous, and procumbent at the base, very similar in general appearance to the preceding.

## 31. ROTTBOLLIA.

1. *R. incurvata*, (*Sea Hard grass*,) spike round, filiform, mostly incurved; cal. 2-valved. E. B. t. 760. Gray Nat. Arr. 2. p. 87. (*Ophiurus*.)

HAB. Exmouth; Parsonage Style, Lympstone. Fl. July, August. ☉

Culms 2-8 inches, smooth, leafy; leaves linear, short, acute, rough on the upper surface; spike long; florets distant, alternate, imbedded in a hollow of the rachis.

## III. TRIGYNIA.

## 32. MONTIA.

1. *M. fontana*, (*water Chickweed*.) E. B. t. 1206.

HAB. Watery places, common. Fl. May—July. ☉

A succulent plant, with prostrate rooting stems, 2-4 inches long; opposite, small, spatulate leaves; minute white flowers, on short peduncles, which droop before flowering; short stamens inserted on the cor. and a roundish erect capsule, with 3 reniform dotted seeds.

## 33. POLYCARPON.

1. *P. tetraphyllum*, (*four-leaved Allseed*.) E. B. t. 1031.

HAB. On some old walls, at Lympstone; found originally by the Rev. Mr. Newberry, and since by Miss Filmore. Fl. May—August. ☉

This plant has a branched trailing habit, with ovate entire leaves, growing mostly in fours, and a panicle of small white flowers.



## IV. TETRANDRIA.

## I. MONOGYNIA.

## 1. DIPSACUS.

1. *D. fullonum*, (*Fuller's Teasel*,) leaves connate; scales of the receptacle hooked; involucre spreading, or reflexed. E. B. t. 280.

HAB. In a hedge between Exminster and Alphington; in a hedge near Kenford. Rev. W. Hincks and Mr. Jacob. Fl. July, August. ♂

An angular prickly stem, 4-6 feet high; large, oblong, obtusely and irregularly serrated leaves; involucre about the same length as the oval head of pale purple, or whitish flowers. Used in dressing cloth.

2. *D. sylvestris*, (*wild Teasel*,) leaves opposite; scales of the receptacle straight; involucre curved upwards. E. B. t. 1032.

HAB. Frequent in the southern parts of the county. Exeter, Exminster, Chudleigh, Torquay, &c. but less frequent in the northern parts. Fl. July. ♂

The more slender habit, the leaves being not, or very rarely, connate, involucre not spreading, and straight scales of the receptacle, distinguish this from the preceding species.

## 2. SCABIOSA.

1. *S. succisa*, (*Devil's-bit Scabious*,) leaves simple; cor. cleft into 4 equal segments. E. B. t. 878.

HAB. Fields and woods, frequent. Fl. July—September. ♀

Root abruptly broken off; stems nearly simple; leaves hairy, stiffish, subdentate; the radical ones ovate, and mostly petiolate; those of the stem oblong and sub-sessile; flowers in subglobose heads, blue, purple, or flesh-colour.

2. *S. arvensis*, (*field Scabious*,) stem leaves pinnatifid; cor. unequally 4-cleft, radiating. E. B. t. 659.

HAB. Corn-fields, pastures, &c. common. Fl. July. ♀

Root fusiform; stem 2-3 feet high, hispid and branched, the radical leaves long and lanceolate; the cauline ones pinnatifid; the heads of the flowers purplish, or flesh-colour, or (rarely) white; the outer florets much the largest, and with unequal segments.

3. *S. columbaria*, (*small Scabious*,) leaves, the radical ones ovate and lyrate, or crenate; the cauline ones pinnatifid, with linear segments; cor. 5-cleft, radiating. E. B. t. 1311.

HAB. Cliffs on the southern coast. Teignmouth, Torquay, Brixham. Fl. July, August. ♀

8-12 inches high, hairy; the lower leaves on longish footstalks; the cauline ones cut into narrow, linear, or setaceous pinnae; the involucre with narrower leaves, longer than the purplish blue flowers.

### 3. SHERARDIA.

1. *S. arvensis*, (*blue Sherardia*,) leaves about 6 in a whorl; flowers terminal, sessile. E. B. t. 891.

HAB. Dry pastures, &c. common. Fl. June—September. ☉

A small plant, with a branched spreading habit and obovate acute leaves; the flowers pale-blue, in a small terminal umbel; has the habit of a *galium*, from which genus it is distinguished by the calyx crowning the fruit.

### 4. ASPERULA.

1. *A. odorata*, (*sweet Woodruff*,) leaves lanceolate, about 8 in a whorl; flowers paniculate, on longish stalks; fruit hispid. E. B. t. 755.

HAB. Woods and shady places, not unfrequent. Lidford Fall, Ilington, Chudleigh, Lustleigh, Exmouth, Warleigh Woods. Fl. May. ♀

Root creeping; stems simple, 10-18 inches high; flowers white; the whole plant very fragrant.

2. *A. cynanchica*, (*small Woodruff*,) leaves linear, about 4 in a whorl; flowers umbellate; fruit glabrous. E. B. t. 33.

HAB. Pinhey Cliffs, near Lyme. Mr. Jacob. Fl. June. ♀

Root fibrous; stem 5 or 6 inches, procumbent below, ascending above; the leaves unequal, the upper ones opposite; the flowers flesh-colour, with deeper red lines.

### 5. GALIUM.

τ. Fruit glabrous; flowers yellow.

1. *G. verum*, (*yellow Bed-straw*,) leaves linear, grooved, entire, about 8 in a whorl; flowers in dense panicles. E. B. t. 660.

HAB. Dry hedges, &c. common. Fl. July, August. ♀

This plant has a creeping reddish root, and linear, deflexed, roughish leaves.

2. *G. cruciatum*, (*Cross-wort*,) leaves ovate, hairy, 4 in a whorl; peduncles 2-leaved; flowers lateral, clustered. E. B. t. 143.

HAB. Hedges, in various parts of the county, frequent. Fl. May. ♀

The stems are weak, branched at the base, simple and angular above; fertile flowers are intermixed with others bearing only anthers.

ττ. Fruit glabrous; flowers white.

3. *G. palustre*, (*white water Bed-straw*,) stem lax, spread-

ing, branched; leaves 4-6 in a whorl, oblong, lanceolate, obtuse, unequal in size. E. B. t. 1857.

HAB. Frequent in wet places. Fl. July. ♀

The stems are long, straggling, and widely branched; the leaves roughish on the keel and edges; the peduncles terminal, arranged in ternate panicles, having a 2-leaved involucre at the base of each ternate division; the fruit obscurely dotted.

4. *G. uliginosum*, (*rough Marsh Bed-straw*,) stem rough, branched; leaves 6 in a whorl, lanceolate, mucronate, the margins rough with reflexed prickles. E. B. t. 1972.

HAB. Swampy situations, frequent. Isington, Bovey Tracey, Banks of the Dart near Totness, &c. Fl. August. ♀

Plant with a lax, slender, branched, and angular stem, rough with small prickles, which, as in the leaves, point downwards.

5. *G. saxatile*, (*smooth Heath Bed-straw*,) stem much branched, procumbent, glabrous; leaves 6 in a whorl, obovate, mucronate. E. B. t. 815. Fl. Aug. 67. (*G. montanum*.) With. Bot. Arr. 187. (*G. procumbens*.)

HAB. On heathy downs, common. Fl. July, August. ♀

A small glabrous plant with a creeping root; the primary peduncles are simple, and support a ternate corymb; it bears an abundance of flowers, pinkish in the bud, afterwards very white.

6. *G. mollugo*, (*great Hedge Bed-straw*,) leaves about 8 in a whorl, elliptical, mucronate, rough at the margin; flowers in large loosely-branched panicles. E. B. t. 1643.

HAB. Woods and hedges, common. Fl. July, August. ♀

A plant with long straggling branched stem; the panicle, commencing half way down, much and irregularly subdivided; the marginal prickles of the leaves point forward; the segments of the cor. are mucronate.

#### †††. Fruit hispid.

7. *G. Aparine*, (*Cleavers*, or *Goose-grass*,) leaves 6-8 in a whorl, linear, lanceolate, their margins, keel, and the weak stem, rough with reflexed prickles. E. B. t. 816.

HAB. Hedges, common. Fl. May—July. ☉

The stem very long, weak, straggling, angular, and branched; the leaves hispid, mucronate, and entire; the flowers few, minute, white, on 2 or 3 simple footstalks from the axils of the leaves; the fruit rough with hooked bristles.

#### 6. RUBIA.

1. *Rubia peregrina*, (*wild Madder*,) leaves 4-6 in a whorl, elliptical, smooth and shining above; cor. 5-parted. E. B. t. 851.



HAB. Hedges about Ilington, Ashburton, Chudleigh, Marychurch, Torquay, Sidmouth, Exmouth, &c.; rocks near the bridge at Bideford on the road between Westleigh and Bideford; and about the neighbourhood of Barnstaple. Dr. Wavell. Fl. June, July. 24

The stem angular, the angles set with reflexed prickles, as are also the margins and keels of the leaves; the flowers yellowish, mostly 5-parted, but occasionally 4 or 6, on terminal forked panicles; the berry black, rarely perfecting more than 1 seed; the stem and leaves commonly remain through the winter.

### 7. EXACUM.

1. *E. filiforme*, (least *Gentianella*,) stem forked; leaves sessile; flowers on long peduncles. E. B. t. 235.

HAB. Mentioned by Mr. Stackhouse as frequent in bogs in Devon. Withering, Bot. Arr. p. 194. Fl. July. ☉

Plant 3-4 inches high, smooth; the flowers yellow, small, and generally closed.

### 8. PLANTAGO.

1. *P. major*, (greater *Plantain*,) leaves ovate, on longish footstalks; scape rounded; spikes long, cylindrical; cells of the capsules many-seeded. E. B. t. 1558.

HAB. Meadows, pastures, and way-sides, common. Fl. May—August. 24

Leaves all radical, large, mostly toothed, spreading, and 7-nerved, nearly smooth; the scapes erect and rounded, the spike long and dense, the capsule with 6-8 seeds in each cell. The *P. media* we have no hab. for, nor have we ever found it in the county; it can only be confounded with the present, from which, however, it is readily distinguishable by the cells of its capsule containing only a single seed; the leaves are also generally very pubescent.

2. *P. lanceolata*, (ribwort *Plantain*,) leaves lanceolate; scape angular; spike ovate. E. B. t. 175.

HAB. Meadows and pastures, common. Fl. June, July. 24

The leaves erect, from 3-5 nerved, attenuated at each end; the spike dense; there is a blackish bractea at the base of each flower.

3. *P. maritima*, (sea-side *Plantain*,) leaves linear, grooved, fleshy; scape rounded; spike cylindrical. E. B. t. 175.

HAB. Salt marshes, and on the sea-coast, common. Fl. July, August. 24

The leaves are deep-green, generally entire, but not unfrequently toothed; the spike is dense and narrow; the plant varies considerably in size, according to situation.

4. *P. coronopus*, (buck's-horn *Plantain*,) leaves linear, pinatifid; scape rounded; caps. of 4 one-seeded cells. E. B. t. 892.

HAB. On the sea coast and in salt-marshes, common; and also in sterile and on elevated situations inland, frequent. Teignmouth, Topsham Marshes, Bovey Heathfield, Lustleigh Cleve, &c. Fl. June, July. 24

Leaves spreading close to the ground in a radiating form, more or less pinnate, varying in size and pubescence; the scape hairy; the spike mostly cylindrical, but in very dwarf plants occasionally ovate. The plant varies much in size, but is usually 4-6 inches high.

### 9. CENTUNCULUS.

1. *C. minimus*, (*Bastard Pimpernel*.) E. B. t. 531.

HAB. Bovey Heathfield; Petitor, Marychurch. Rev. A. Neck. Fl. June, July. ☉

1-2 inches high, branched; leaves mostly alternate, glabrous, fleshy, ovate, and pointed; flowers minute, sessile, axillary, solitary; cor. pale-rose, persistent on the ripe capsule.

### 10. SANGUISORBA.

1. *S. officinalis*, (*great Burnet*,) spikes ovate; stamens the length of the perianth. E. B. t. 1312.

HAB. Meadows between Crocombe Bridge and Cannonteign. Wood near Wear Gate by the river Mew, MSS. Tour of Sir Francis Drake and Mr. Hudson. Fl. June, July. ☿

1-2½ feet high, branching upward; the leaves pinnate with a terminal leaflet; the leaflets petiolate, cordate at the base, crenate, glabrous; the heads of flowers dark-purple, and much crowded; perianth, the tube enveloping the germen with 4 ciliated scales at the base; the limb in 4 ovate segments; seed mostly single.

### 11. CORNUS.

1. *C. sanguinea* (*wild Cornel-tree, or Dogwood*,) arborescent; branches straight; leaves ovate, green on both sides; cymes without involucre. E. B. t. 249.

HAB. Woods, hedges, and sheltered situations, frequent. Fl. June. ♀

A shrub 5-6 feet high, with smooth red branches; the leaves opposite, petiolate, entire, glabrous, strongly veined, changing to red in decay; the cymes terminal, flat, with numerous white flowers; the berries dark-purple, globular, and bitter.

### 12. PARIETARIA.

1. *P. officinalis*, (*Pellitory of the Wall*,) leaves ovate, lanceolate; involucre of many ovate leaflets. E. B. t. 879.

HAB. On old walls, buildings, bridges, &c. common. Fl. June—Sept. ☿

1-2 feet high, with numerous leafy, branched, angular, reddish stems; leaves dark-green, entire, hairy, petiolate, and alternate; flowers axillary in threes, the central one with a pistil only; the filaments jointed, incurved at first, spreading elastically to discharge the pollen; the fruit ovate, black, and shining, concealed by the persisting perianth.

### 13. ALCHEMILLA.

1. *A. vulgaris*, (*common Ladies'-mantle*,) leaves plaited, many-lobed, serrate. E. B. t. 597.

HAB. Dartmoor, Mr. Puddicombe. Holwell, near Manaton. Widdecombe-in-the-Moor, Rev. A. Neck. Fl. June, July. ☉

About a foot high, the stems round, hairy, and branched; the radical leaves large on long petioles: the stem leaves small, sub-sessile, with 2 deeply toothed, connate stipules; the flowers yellowish-green in lax corymbose terminal clusters.

2. *A. arvensis*, (*Parsley Piert*,) leaves 3-lobed, lobes irregularly and deeply cut; flowers axillary, sessile. E. B. t. 1011. With. Bot. Arr. p. 4. (*Aphanes arvensis*.)

HAB. Hedges, common. Fl. May—August. ☉

Stems 4-5 inches, much branched, leafy; leaves alternate, with large deeply-cleft stipules; the flowers green; the calyx very hairy; stamens varying in number, mostly two; germens two, one of them mostly abortive.

## II. TETRAGYNIA.

### 14. ILEX.

1. *I. aquifolium*, (*Holly-tree*,) leaves ovate, acute, spinous. E. B. t. 496.

HAB. Woods and hedges. Fl. May. ♀

A small evergreen tree, with smooth greyish bark; alternate, deep shining green, and rigid leaves, the upper ones sometimes entire; clustered white flowers in the axils of the leaves, and scarlet berries.

### 15. POTAMOGETON.

1. *P. natans*, (*broad-leaved Pond-weed*,) upper leaves floating, petiolate, oblong, ovate; lower ones lanceolate, gradually petiolate. E. B. t. 1822.

HAB. Ponds and slow streams, frequent. Fl. July. ♀

Stems varying from 1 to several feet in length, round and leafy; upper leaves coriaceous, veined, on long peduncles; the lower ones linear, lanceolate, submersed; the stipules large, pale, membranaceous, concave, nearly the length of the petioles; peduncles with similar stipules; the spike 1-2 inches long, rising above the water.

2. *P. perfoliatum*, (*perfoliate Pond-weed*,) leaves cordate, embracing the stem. E. B. t. 168.

HAB. River Exe, between Topsham and Exeter. Fl. July. ♀

In the shape and insertion of the leaves, this species is very distinct; in common with the remaining ones of this genus it is submersed; the spike is oblong, ovate, on a shortish peduncle.

3. *P. densum*, (*close-leaved Pond-weed*,) stem forked; leaves ovate, acuminate, opposite, crowded, sessile; spike about 4-flowered. E. B. t. 297.

HAB. River Clyst, by St. Mary Clyst Bridge. Fl. June. ♀

The stems vary in length, and are densely clothed, especially towards the summits of the branches, with bright green leaves; the flowering spike is small, on a very short peduncle.

4. *P. lucens*, (*shining Pond-weed*,) leaves ovate, lanceolate, petiolate; spike crowded with flowers. E. B. t. 376.

HAB. Bogs on Haldon. Fl. June, July. 24

Stems long, wholly submersed, and nearly simple; leaves alternate on short petioles, entire, pellucid, and beautifully veined; the spike 1-2 inches long, dark green, and much crowded with flowers.

5. *P. crispum*, (*curled Pond-weed*,) leaves alternate, sessile, lanceolate, serrate, much waved. E. B. t. 1012.

HAB. River Exe. Mill-stream near Totness. Fl. June, July. 24

The stems long, branched, and very leafy upwards; the leaves dark green, pellucid, obtuse, sometimes opposite at the top; spike of 6-10 brown flowers, rather distantly inserted.

6. *P. compressum*, (*flat-stalked Pond-weed*,) stem compressed; leaves linear, obtuse, sessile; spikes about 4 flowered, E. B. t. 418.

HAB. Stagnant waters, ponds, &c. occasionally. Ditches near Powderham, Exminster Marshes. Fl. July. 24

A small plant, the leaves of the same width throughout; the stipules large, very conspicuous, and whitish.

7. *P. gramineum*, (*grassy Pond-weed*,) stem rounded, subdichotomous; leaves linear, lanceolate, alternate, sessile, broader than the stipules. E. B. t. 2253.

HAB. In the park at Powderham. Rev. J. Jervis.

This is probably not distinct from the preceding. *P. pusillum* of E. B. t. 215, Mr. Jacob states to grow at Cowley-bridge; we have no knowledge of either as distinct species.

## 16. RUPPIA.

1. *R. maritima*, (*Sea Tassel-weed*,) E. B. t. 136.

HAB. Exminster and Powderham Marshes. Salt ditches near Starcross, Mr. Jacob. Braunton Burroughs, Dr. Wavell. Fl. July, August. 24

The stems slender, filiform, flexuose, branched and leafy; "leaves long, setaceous, sheathing; the sheaths membranaceous and inflated, the spadix short at first and included in the sheaths, with 2 minute, naked, green flowers, one above the other, on opposite sides: the anthers large and sessile; germens resembling four minute tubercles, in the centre between the anthers; after flowering, the spadix lengthens remarkably, 5-6 or more inches, and becomes spirally twisted, so as to extend or contract itself with the rise or fall of the water; at the same time the germens swell and rise on footstalks (as the fruit ripens) of an inch in length; drupes 4, ovate, acuminate." For a full and excellent illustration of this curious plant by Dr. Hooker, from which the above is extracted, see Fl. Lond. new series.

## 17. SAGINA.

1. *S. procumbens*, (*procumbent Pearl-wort*,) perennial, gla-

brous; stems procumbent; leaves shortly mucronate, petals much shorter than the cal.; caps. longer than the cal. E. B. t. 880.

HAB. Walls, and dry sandy situations, common. Fl. May—August. ☽

Stems many, 2-4 inches long, rooting at the joints; leaves linear, subulate, connate, convex beneath, plane above, smooth; flowers axillary on slender peduncles, longer than the leaves, at first drooping; petals white.

2. *S. apetala* (annual small Pearl-wort,) annual, subpubescent; stems erect; leaves aristate; pet. much smaller than the cal. E. B. t. 881.

HAB. Dry gravelly or heathy situations, frequent. Fl. May, June. ☉

More slender, of a paler green than the last, and more or less pubescent, with short spreading hairs; the leaves are narrower, and with a longer point.

### 18. MCENCHIA.

1. *M. glauca*, (glaucous Pearl-wort,) Fl. Lond. new series. E. B. t. 609. (*Sagina erecta*.)

HAB. West Down near Exmouth; Haldon; heaths, and dry hedges, in the neighbourhood of Moreton and North Bovey; Lympstone. Fl. May. ☉

Stems erect, smooth, 2-4 inches high, erect or a little reclining at the base; leaves opposite, linear, lanceolate, acute, rigid, glaucous; sepals large, acuminate, white, and membranous at the margin; petals lanceolate, entire, length of the calyx; caps. as in *Cerastium*.

### 19. RADIOLA.

1. *R. millegrana*, (*All-seed*,) E. B. t. 893. With. Bot. Arr. 2. p. 323. (*Linum Radiola*.)

HAB. Moist, sandy, or gravelly situations. Bovey Heathfield, Haldon, Hightor Down, frequent. Fl. July, August. ☉

1-2 inches high, repeatedly dichotomous and bushy; the leaves ovate, entire, smooth, opposite, distant; flowers axillary, solitary, stalked; cal. segments trifid; petals white.

## V. PENTANDRIA.

### 1. MONOGYNIA.

#### 1. MYOSOTIS.

1. *M. sylvatica*, (*wood Scorpion-grass*,) racemes very long and lax; pedicels (in fruit) divergent, patent, longer than the cal.; cal. 5-cleft, connivent; cor. the limb expanded, longer than the tube. Lehman Asperif. p. 85. Smith's Fl. Brit. p. 212. (*M. scorpioides* γ.)



HAB. Woods, frequent. Fl. June—August. 2

Perennial; the stems 12-18 inches high, with soft spreading hairs, the pedicels short whilst in flower; the hairs of the calyx patent and hooked, the uppermost longer, and erect; the flowers large, bright, pale-blue.

2. *M. palustris*, (*marsh Scorpion-grass*,) racemes shortish; peduncles (in fruit) twice the length of the calyx; cal. 5-toothed, patent; cor. the limb expanded, longer than the tube. E. B. t. 1973.

HAB. Banks of streams, bogs, &c. common. Fl. June—August. 2

1-2 feet high, with creeping root; the raceme shorter, the flowers more crowded than in the preceding species; the hairs of the calyx erect, straight; the flowers large, pale-blue.

3. *M. arvensis*, (*field Scorpion-grass*,) racemes very long; pedicels (in fruit) patent, twice as long as the calyx; cal. 5-cleft, close; cor. the limb erecto-patent, as long as the tube. E. B. t. 2558.

HAB. Fields and waste places, frequent. Fl. June, July. ☉

About a foot high, branched, with patent, sub-rigid hairs; the hairs of the calyx hooked.

4. *M. versicolor*, (*yellow and blue Scorpion-grass*,) racemes very long, pedicels (in fruit) erecto-patent, shorter than the calyx; cal. acute, 5-cleft, closed; cor. the limb patent, shorter than the tube. E. B. t. 480.

HAB. In dry sterile situations. Fl. June, July. ☉

3-12 inches, with long divergent hairs; the flowers very small, yellow and blue.

There has been much difference of opinion with regard to the species of this genus. In the Fl. Brit. one species is made to include the different varieties. Withering has two species. We follow Lehman, the author of an excellent work on the natural family of *Asperifoliae*, and consider the characters as above given pretty constant. The expanded teeth of the calyx, when in fruit, distinguish *M. palustris*. The annual root, long pedicels and small flowers, *M. arvensis*. The short pedicels, long calyx, and yellow and blue flowers, *M. versicolor*. The connivent calyx with rigid hooked hairs, and larger pale-blue flowers, *M. sylvatica*.

## 2. LITHOSPERMUM.

1. *L. officinale*, (*common Gromwell*,) stem erect, branched; leaves lanceolate; tube of the cor. as long as the cal.; fruit smooth. E. B. t. 134.

HAB. In waste places, not unfrequent. Hsington, Chudleigh, Ashburton, Torquay. Branton Burroughs, Dr. Wavell. Fl. May, June. 2

1-2 feet high, covered with rigid appressed hairs; the leaves alternate, rough on the upper surface, hairy beneath: the flowers pale yellow; nuts whitish-brown, ovate, and polished, seldom ripening above two in each calyx.

2. *L. arvensis*, (*corn Gromwell*,) stem erect; leaves lanceolate; segments of the cal. patent, when in fruit; cor. a little longer than the cal.; fr. rugose. E. B. t. 123.

HAB. In corn-fields, occasionally. About Chudleigh, frequent. Side of the road between Dawlish and Teignmouth, Mr. Jacob. Fl. May, June. ☉

The calyx segments thrice the length of the fruit; cor. white; the nuts brown and rugose.

3. *L. purpuro-ceruleum*, (*creeping Gromwell*,) barren stems creeping and rooting; flowering stems erect; leaves lanceolate; cor. much longer than the cal.; the fr. smooth. E. B. t. 117.

HAB. Dungeon Cliff, Petitor, Marychurch, Rev. A. Neck. ♀

Stems numerous, the middle ones erect, the rest decumbent and simple; the cor. violet or flesh-colour: the fruit white.

### 3. ANCHUSA.

1. *A. sempervirens*, (*evergreen Alkanet*,) leaves ovate, the lower ones petiolate; peduncles axillary, 2-leaved; flowers sub-capitate. E. B. t. 45.

HAB. Hedges, occasionally. Turnpike-road near Shillingford; Ilington, Moreton, North Bovey, Sidmouth, Dartmouth, Tavistock, Mamhead Churchyard. Fl. May, June. ♀

The root fusiform; stem 1-2 feet high, rough, and hairy, angular, and branched; the leaves dark-green, acute; the corolla a fine blue, its shape approaching that of the genus *Myosotis*.

### 4. CYNOGLOSSUM.

1. *C. officinale*, (*common Hound's-tongue*,) leaves lanceolate, attenuated at the base, sessile, pubescent; stam. shorter than the cor. E. B. t. 921.

HAB. Waste places, occasionally; about Chudleigh. Fl. June, July. ♂

Plant 2-3 feet high, dull-green, soft to the touch, and fetid; the radical leaves large, petiolate; the stem leaves sub-amplexicaul, entire, and flexuose; the flowers dull-red; the fruit rough, with hooked prickles.

### 5. SYMPHYTUM.

1. *S. officinale*, (*common Comfrey*,) leaves ovate, lanceolate, very decurrent, and winging the upper part of the stem. E. B. t. 817.

HAB. Banks of streams, frequent. Along the Exe, Teign, Bovey, &c. Fl. May, June. ♀

Stems 2-4 feet, succulent, hispid, with deflexed hairs; the radical leaves rough, on long petioles; flowers large, yellowish white, or purple, in 2 branched clusters.



6. BORAGO.

1. *B. officinalis*, (*common Borage*,) lower leaves obovate, attenuate at the base; segments of the cor. ovate, acute, spreading. E. B. t. 36.

HAB. On rubbish about Chudleigh; on the Den, at Teignmouth. Fl. June, July. ♂

The whole plant very hispid; the stems succulent, much branched, and very divaricate; the flowers large, of a fine blue.

7. LYCOPSIS.

1. *L. arvensis*, (*small Bugloss*,) leaves lanceolate, repandenticulate, hispid; cal. erect (while in flower,) shorter than the tube of the cor. E. B. t. 938.

HAB. Fields near the Parsonage at Moreton; North Bovey. About Exeter, Mr. Jacob.

12-18 inches high, branched, very hispid, the hairs or bristles seated on a white callous bulb; the radical leaves petiolate, long, spreading; the racemes leafy, the flowers bright-blue. Differs from the genus *Anchusa* in the curvature of the tube of the corolla.

8. ECHIUM.

1. *E. vulgare*, (*Viper's-Bugloss*,) stem simple, bristly, tuberculated; leaves lanceolate, hispid; fl. in lateral spikes; stam. longer than the cor. E. B. t. 181.

HAB. Corn-fields and waste places, frequent. Fl. June, July. ♂

Stem 1-3 feet high, round, firm, erect, pyramidal, and crowded with spikes; flowers reddish-purple in the bud, afterwards a bright-blue, densely crowded on the spikes.

9. PRIMULA.

1. *P. vulgaris*, (*common Primrose*,) leaves dentate, rugose; scape 1-flowered; limb of the cor. plane. E. B. t. 4.

HAB. Hedges, woods, &c. common. Fl. March, April. ♀

Leaves all radical, ovate, gradually tapering to a petiole, dark-green above, and pale beneath; the scapes numerous and slender; the flowers large, pale-yellow, occasionally purplish.

3. *P. veris*, (*common Cowslip*,) leaves dentate, rugose, contracted below the middle; scape umbellate, flowers drooping; limb of the cor. concave. E. B. t. 5.

HAB. About Chudleigh, rare. Torquay and Marychurch, Rev. A. Neck. In a field at Berry Narbor, Dr. Wavell. Between Exmouth and Budleigh Salterton; about Axmouth, Axminster, and Colyton. This plant, though so abundant in some of the neighbouring counties, is of rare occurrence in Devon, except on the borders of Somerset and Dorset. Fl. April, May. ♀

The leaves resemble the last; the flowers are small, and tawny yellow.

## 10. MENYANTHES.

1. *M. trifoliata*, (*common Buckbean*,) leaves ternate. E. B. t. 495.

HAB. In marshy situations, frequent. Fl. June, July. ♀

Roots long, creeping; stems round, succulent, leafy, branched, procumbent; the leaves sheathing, petiolate, smooth; flowers 5-cleft, spiked, on short pedicels, pale-reddish; the upper surface densely fimbriated.

## 11. LYSIMACHIA.

1. *L. vulgaris*, (*yellow Loosetife*,) leaves ovate, lanceolate, acute; flowers in a terminal panicle. E. B. t. 761.

HAB. Beside the Stover Canal, and near Teignbridge. Islet in the Dart above Staverton Bridge. Fl. July. ♀

Leaves opposite, tri- or quaternate, nearly sessile; the panicle large, leafy, and much branched; the cor. large.

2. *L. nemorum*, (*yellow Pimpernel*,) stem creeping; leaves ovate, acute; peduncles solitary; sepals linear, subulate; stam. smooth. E. B. t. 527.

HAB. Shady hedges and woods, common. Fl. May, Sept. ♀

Stem angular, slender, branched, radicaing; the leaves bright-green, entire; the peduncles wiry, flexuose, and 1-flowered.

3. *L. nummularia*, (*Money-wort*,) stem procumbent; leaves sub-cordate, obtuse; peduncles solitary; sepals ovate, acute; stam. glandular. E. B. t. 528.

HAB. Lymptone; Clyst Banks, by the bridge; Exwick Wood, Mr. Jacob. Fl. June, July. ♀

The leaves pale-green, longer than the peduncles; the flowers yellow.

## 12. ANAGALLIS.

1. *A. arvensis*, (*scarlet Pimpernel*,) stem procumbent; leaves ovate, sessile, dotted beneath. E. B. t. 529.

HAB. Fields, common. Fl. June—August. ☉

- Var. *γ. caerulea*, with bright-blue flowers. *A. caerulea*, E. B. t. 1823. (*A. fæmina*, Raii Synop. p. 282. 3.)

HAB. Corn-fields at Rora; Ilsington; field near Shillingford, Rev. W. Hincks. Near Dawlish, Rev. J. Jervis. Fl. July. ☉

- Var. *δ. Terrestris, flore albo*. Raii Synop. p. 282. 4. White, with purple eye.

HAB. About Ilsington, a common weed in the Rectory and Vicarage gardens there.

The stems square, smooth, much branched; the leaves entire, longitudinally veined: the flowers on solitary axillary peduncles.

The blue variety is said to differ from the scarlet in the margin of the cor. that of the latter being broadly and obtusely crenate and piloso-glandulose;



of the former dentate, and scarcely at all glandulose. In the specimens we have examined, we can find, even under a microscope, no sufficient difference in this respect.

2. *A. tenella*, (*bog Pimpernel*,) stem creeping; leaves roundish, acute, petiolated; stigma acute. E. B. t. 530.

HAB. In bogs, common. Fl. July, August.

The stems creeping, angulated, smooth; peduncles axillary, solitary, two or three times as long as the leaves, 1-flowered; stam. hairy. This plant has much of the habit of a *Lysimachia*.

### 13. CONVULVULUS.

2. *C. arvensis*, (*small Bindweed*,) leaves sagittate, with acute lobes; bracteas minute, remote from the flower. E. B. t. 312.

HAB. Fields and hedges, common. Fl. June, July. 2

The root creeping; the stem slender, angular, twisted, climbing or prostrate; the leaves alternate, petiolate: peduncles axillary, mostly 1-flowered; the flowers pale-rose, varied with white; increases very fast by the roots, but seldom perfects seed.

2. *C. sepium*, (*great Bindweed*,) leaves sagittate, with truncate lobes; bracteas large, cordate, close to the flower. E. B. t. 313.

HAB. Sheltered hedges in a good soil, frequent. Mary's Clist, Chudleigh, Bovey Tracey, Ingsdon, North Bovey, &c. Fl. July, August. 2

Root creeping; stems climbing, extending to many feet in length, angular, twisted, branched; the leaves large, alternate, petiolate; peduncles square, bearing a single large, white, handsome flower.

3. *C. soldanella*, (*sea Bindweed*,) leaves reniform, fleshy; peduncles with winged angles. E. B. t. 314.

HAB. On the sea-shore, frequent. Exmouth Warren; Teignmouth; near Plymouth. Morthoe, Dr. Wavell. Fl. July. 2

The root creeping; the stem shortish, prostrate, few-flowered; the peduncles square, erect; bracteas large, ovate, close to the calyx; the flowers large, flesh-colour, with yellow plaits.

### 14. CAMPANULA.

1. *C. rotundifolia*, (*round-leaved Bell-flower*,) root leaves rounded, cordate, crenate; stem leaves, the lower ones lanceolate, toothed, the upper linear, entire. E. B. t. 866.

HAB. Woodhouse Lane, and in a field adjoining the Colehouse Plantations, in the parish of Ilington. Fl. August, September. 2

Stem about a foot high, erect, slender, round; leaves, the radical ones reniform, heart-shaped, or oblong, pointed, on long footstalks; the stem leaves alternate; the flowers in a lax panicle, drooping, mostly blue, occasionally white.

3. *V. nigrum*, (*dark Mullein*,) stem slightly branched; leaves oblong, cordate, petiolate, irregularly crenate; flowers clustered, pedicellate. E. B. t. 59.

HAB. Amongst the rubbish of a lime-kiln at Tor Moham, Rev. A. Neck. In Long Lane, Exminster, and in a lane leading from Exminster to Kenford. At Ilsham, near Torquay, Rev. R. P. Welland. Fl. July, August. ♀

The stem erect, 3-5 feet high, angular, striated; the leaves veiny, dark-green, nearly glabrous; the radical ones on long petioles, those of the stem becoming less and less petiolate upwards; the spike long, rather lax, erect, mostly solitary; the flowers golden-yellow; the stamens covered with purple hairs; the anthers orange.

4. *V. virgatum*, (*large-flowered Mullein*,) stem branched; leaves oblong, lanceolate, dentate, sessile; flowers clustered, sub-sessile. E. B. t. 550.

HAB. Tor Abbey grounds, Bovey Heathfield near Indio, Turnpike-road near Newton Bushell. Fl. July, August. ♀

Chiefly distinguished from the following by its erect woody stalk, and large yellow fasciculated flowers.

5. *V. blattaria*, (*moth Mullein*,) leaves oblong, glabrous, serrate, amplexicaul; peduncles solitary, 1-flowered. E. B. t. 393.

HAB. Hedges occasionally. Between Exminster and Kenn, Ashburton, Chudleigh, Lustleigh, Teigngrace, Stoke-Fleming, Kingsteignton, Teignmouth. Fl. July. ♂

The stem 3-5 feet high, angular, smooth; the leaves smooth, radical ones lyrate; spikes terminal, many-flowered; flowers golden yellow with purple lines.

## 19. HYOSCYAMUS.

1. *H. niger*, (*common Henbane*,) leaves sinuate, amplexicaul; flowers sessile. E. B. t. 591.

HAB. Waste spots near Chudleigh; Exmouth Sands. Beach of Bovisand Bay, Dr. Moore. Paignton Sands, and Halshanger near Ashburton, Rev. A. Neck. Fl. June. ♂

Stem 12-16 inches high, round, firm, branched, leafy; the leaves large, alternate, broadly oblong; spike terminal, recurved, obtuse, leafy; cal. veined, persistent; cor. dingy-yellow, with numerous dark purple veins; the whole plant viscid, and powerfully narcotic.

## 20. SOLANUM.

1. *S. dulcamara*, (*woody Nightshade*,) stem unarmed, shrubby, climbing; upper leaves hastate; corymbs opposite the leaves, drooping. E. B. t. 565.

HAB. Moist hedges, and beside ditches and streams, frequent. Fl. June, July. ♀

Stem slender, straggling; leaves smooth, alternate, petiolate; the lower



ones cordate; corymbs lax and divaricate; flowers purple, 5-cleft, with 2 green tubercles at the base of each segment; the anthers large, yellow, united in a cone; berries red, oval.

2. *S. nigrum*, (*common Night-shade*,) stem unarmed, herbaceous; leaves ovate, toothed, waved; umbels lateral, drooping. E. B. t. 566.

HAB. End of the beach at Topsham. Beaches at Dawlish and Teignmouth. Near the churchyard Lympstone. Tor Abbey. Goodrington sands, Paignton, Rev. A. Neck. Bovisand Bay, near Plymouth. Fl. June—September. ☉

Stem much branched: flowers white; berries spherical, black.

## 21. ERYTHRÆA.

8. *E. centaurium*, (*common Centaury*,) leaves ovate, oblong; flowers sessile; calyx shorter than the tube of the cor. E. B. t. 417. (*Chironia centaurium*.)

β. *pulchella*. Dwarfy; cal. as long as the tube of the cor. E. B. t. 458. (*Chironia pulchella*.)

HAB. Fields, common. β. Wet clayey fields at Ilsington, Bovey Heathfield, Dawlish, Mount Pleasant, near Exmouth, Marychurch, and Babbicombe. Fl. July—September. ☉

Stem 3-12 inches high, simple, or slightly branched, angular, erect; leaves 3-nerved; flowers pink in a branched fascicled corymb. Var. β. differs in the dwarfy size and relative length of the cal.; but we have often gathered plants so intermediate, as to render it doubtful to which they should be referred.

## 22. SAMOLUS.

1. *S. valerandi*, (*Water Pimpernel*,) leaves obtuse; racemes many-flowered; pedicels with a minute bractea. E. B. t. 703.

HAB. Clyst Marshes, Branscombe Cliffs, Exminster Marshes. About Starcross and Kenton. Marychurch, Rev. A. Neck. Braunton Burroughs, Dr. Wavell. Torquay, Rev. R. P. Welland. Fl. July. ☉

Stems 8-10 inches high, round, erect, slightly branched above, glabrous; leaves subpetiolate, alternate, ovate, entire, glabrous; racemes erect; the flowers small, white.

## 23. LONICERA.

1. *L. periclymenum* (*common Woodbine*,) leaves all distinct; flowers ringent, capitate, terminal. E. B. t. 800.

HAB. Woods and hedges, common. Fl. June, July. ♀

Stems climbing; branches opposite; leaves broadly ovate, opposite, sessile, or slightly petiolate, entire; flowers pale yellow, or reddish; berries red.

## 24. RHAMNUS.

1. *R. catharticus* (*Buckthorn*,) spines terminal; leaves ovate, serrate; flowers diœcious. E. B. t. 1629.

HAB. Mentioned by Polwhele as abundant near Brixton; we have never met with it. Fl. May, June. ♀

A spreading shrub, whose branches terminate in spikes; the flowers clustered on short footstalks, yellow-green, the petals very small; the berries black, and strongly cathartic.

2. *R. frangula*, (*Alder Buckthorn*,) unarmed; leaves ovate, entire; flowers perfect. E. B. t. 250.

HAB. Woods, occasionally. Ilsington, Tavistock, Moreton, Kingsteignton. Heywood near Exmouth, Rev. J. Jervis. Exwick wood, Mr. Jacob. Widdecombe in the Moor, Rev. A. Neck. Bridford, Rev. P. Welland. Fl. May. ♀

A shrub with small whitish-green flowers, axillary, 2 or 3 together on longish footstalks; the petals and stamens very minute; berries dark-purple, 2-seeded; purgative.

## 25. EUONYMUS.

1. *E. europæus*, (*Spindle-tree*,) leaves ovate, lanceolate, petiolate; peduncles compressed, many flowered; stamens mostly 4. E. B. t. 362.

HAB. Woods and hedges, frequent. Chudleigh, Moreton, Ilsington, Totness, Marychurch. Fl. May. ♀

A shrub 5-6 feet high, with smooth green bark and divaricating branches; leaves opposite, serrate, smooth; flowers white, in small axillary panicked clusters; fruit pinkish-red, poisonous.

## 26. RIBES.

1. *R. rubrum*, (*common Currant*,) thornless; racemes glabrous, pendulous; flowers plane; petals obcordate. E. B. t. 1289.

HAB. Bagtor Wood, Ilsington. Banks of the River Culm, Rev. W. Hincks. Lizwell Wood, Widdecombe in the Moor, Rev. A. Neck. Banks of the River at North Bovey. Fl. May. ♀

The stem erect, branched; leaves 5-lobed, doubly serrate, on longish footstalks; pedicels with a small bractea at the base of each; flowers greenish; berry red, crowned with the withered calyx.

2. *R. nigrum*, (*black Currant*,) thornless; leaves punctatoglandulose beneath; racemes pubescent, pendulous, with a simple flower-stalk at the base; flowers campanulate. E. B. t. 291.

HAB. Banks of the Teign near Chudleigh Bridge, and of the Bovey near North Bovey, and Bovey Tracey. Fl. May. ♀

A bushy shrub, with glandular, scented leaves, hairy racemes, and solitary flowers.



3. *R. grossularia*, (rough Gooseberry,) branches prickly; peduncles hairy; pedicels single-flowered, with a pair of minute bracteas; fruit hairy. E. B. t. 1292.

HAB. Hedges near Chudleigh, occasionally. Hedges near Exeter, Rev. W. Hincks. Fl. April, May. ♀

A bushy shrub with prickly stems; leaves rounded, lobed, serrate; flowers brownish green; berries hispid, pendulous. *R. uva-crispa* is a variety of this, with united bracteas and smooth fruit; probably neither are indigenous.

## 27. HEDERA.

1. *H. helix* (common Ivy,) leaves 5-lobed, the lobes angular, floral leaves ovate; umbel erect. E. B. t. 1267.

HAB. Woods, hedges, rocks, &c. common. Fl. Nov. ♀

Stems long, creeping, adhering to rocks or trees, by numerous short, root-like processes; leaves shining, dark-green; flowers in a compact roundish umbel, pale-green, with reflexed petals; berries purplish-black, mealy within.

## 28. ILLECEBRUM.

1. *I. verticillatum* (whorled Knot-grass,) stem procumbent; flowers in whorls, naked. E. B. t. 895.

HAB. East side of Shute Hill near Axminster, Rev. W. Buckland. Said by Withering in Bot. Arr. not to be uncommon in Devon. Fl. July. ♀

Stem about 3 inches, filiform; leaves ovate, entire, glabrous, fleshy; flowers whitish.

## 29. GLAUX.

1. *G. maritima* (black Saltwort.) E. B. t. 13.

HAB. Salt marshes, common. Topsham marshes, Exminster marshes, at Hackney near Kingsteignton, Plymouth, &c. Fl. June, July. ♀

Stems 2-6 inches high, round, slightly branched, very leafy; leaves ovate, smooth, fleshy, entire, sessile, opposite; flowers pinkish, sessile, axillary, solitary, numerous.

## 30. VINCA.

1. *V. minor*, (lesser Periwinkle,) stem procumbent; leaves oblong, lanceolate, their margins glabrous; cal. segments lanceolate, glabrous. E. B. t. 917.

HAB. Hedges, occasionally. Ilington, Lympstone, Chudleigh, Plymouth, Exeter, Shillingford, &c. In the road between Crediton and Tap House. White Var. bottom of Bunker's Hill near Totness. Compton near Plymouth, Rev. J. S. Tozer. Fl. April, May. ♀

Root creeping; stems long, round, smooth; leaves petiolate, shining; flowers axillary, peduncled, solitary, blue; the leaves remain green through the winter, and in most situations it flowers through the year, but seldom perfects seed.



2. *V. major*, (*greater Periwinkle*,) stems ascending ; leaves subcordate, the margins ciliated  $\frac{2}{3}$  cal. segments long, setaceous. E. B. t. 514.

HAB. Near Mamhead parsonage, in a hedge. Near Ide, Mr. Jacob. By the rivulet in Manadon Wood near Plymouth, Dr. Moore. Near the first mile-stone on the turnpike road between Plymouth and Tavistock, Rev. J. S. Tozer. Fl. May.  $\gamma$ .

Resembles the former, but twice the size in all its parts ; the stems at first erect, afterwards taking root at the extremities. The leaves are minutely scabrous at the margin.

## II. DIGYNIA.

### 31. CHENOPODIUM.

#### $\tau$ . Leaves entire.

1. *Ch. fruticosum*, (*shrubby Saltwort*,) leaves subulate, fleshy ; bractæ 3 ; flowers axillary, sessile, solitary. Br. in Hort. Kewensis. E. B. t. 635. (*Salsola fruticosa*.)

HAB. On sea coast of Devon, Hudson. Fl. July, August. ☉

Differs from the following in the solitary flowers and the number of bractæ.

2. *Ch. maritimum*, (*sea Goosefoot*,) leaves subulate, semi-cylindrical, fleshy ; bractæ 2 ; flowers clustered, axillary, sessile. E. B. t. 633.

HAB. In salt marshes, and on the sea coast. Topsham Marshes. Exmouth Warren, Rev. A. Neck. Near Starcross, Mr. Jacob. Fl. July, August. ☉

Stem 9-18 inches, erect, roundish, branched, leafy ; the flowers greenish.

2. *Ch. olidum*, (*stinking Goosefoot*,) stems spreading ; leaves ovate, rhomboid ; flowers in dense clustered spikes. E. B. t. 1034.

HAB. About Chudleigh. Fl. August. ☉

Stems 9-12 inches, decumbent at the base, branched ; leaves small, alternate, petiolate, covered with a greasy pulverulent substance, which is very fetid.

3. *Ch. polyspermum*, (*round-leaved Goosefoot*,) leaves ovate ; racemes subcymose, divaricate, leafless. E. B. t. 1430 and 1481. (*Ch. acutifolium*.)

HAB. Waste places, occasionally. Near Teignmouth. Fl. July, August. ☉

Stems erect or decumbent, square, reddish, with long branches ; leaves petiolate, more or less acute ; seed-vessels brown, shining, very numerous and obvious.

#### $\tau\tau$ . Leaves angular, toothed, or lobed.

4. *Ch. Bonus Henricus*, (*wild Spinach*,) leaves triangular,

sagittate, entire; spikes compound, terminal and axillary, leafless. E. B. t. 1033.

HAB. Waste places, occasionally. Bickington Churchyard, Chudleigh, Rora near Ilington; Widdecombe-in-the-Moor, and Kingskerswell, Rev. A. Neck. Tavistock, Dr. Wavell. Fl. May, June. ♀

Stem a foot or more high, striated, branched at the base; leaves large, dark-green, more or less sagittate or hastate; used as a substitute for spinach.

5. *Ch. rubrum*, (*red Goosefoot*,) leaves rhomboid, triangular, deeply toothed and sinuated; spikes erect, compound, leafy; seeds minute. E. B. t. 1721.

HAB. Dunchills, waste places, &c. common. Fl. July, August. ☉

Stems erect, 1-2 feet, branched, reddish; leaves dark-green, somewhat attenuated at the base; racemes very compound.

6. *Ch. murale*, (*nettle-leaved Goosefoot*,) leaves ovate, acute, toothed, shining; racemes much branched, subcymose, leafless. E. B. t. 1722.

HAB. Rubbish and waste spots near towns, occasionally. Teignmouth, Exmouth. Fl. August, September. ☉

Stem erect; leaves approaching a rhomboid form; branches of the racemes spreading; flowers rather distant; seeds minutely punctured; the whole plant dark-green, shining, and rather fetid.

7. *Ch. album*, (*white Goosefoot*,) lower leaves rhomboid, ovate, jagged, entire at the base, upper ones oblong, entire; racemes branched, leafy. E. B. t. 1723.

β. *viride*, leaves greener, more entire; racemes elongated.

HAB. Waste places, common. Fl. July—September. ☉

Stems erect, branched, angular; leaves covered with a mealy substance, varying in width and erosion; clusters of flowers obtuse, erect, with small leaves between the clusters; seeds very smooth.

### 32. BETA.

1. *B. maritima*, (*sea-side Beet*,) stems procumbent at the base; flowers solitary, or in pairs; sepals entire. E. B. t. 285.

HAB. Banks of the Exe from Topsham to the sea. Beaches at Teignmouth and Dawlish. Under the rocks near Sandtown, Dr. Wavell. Fl. August. ♀

Root thick and fleshy; stems several, tall, branched, angular; leaves ovate, smooth, entire; the radical ones large, spreading, succulent, wavy, petiolate; cauline ones sessile, alternate; spike long, compound, erect, terminal; a small leaf is at the base of each flower, or pair of flowers. Differs from the common beet (*B. vulgaris*) in having 1-2 instead of 3-4 flowers in the axils of the upper leaves, and in the stems being procumbent at the base. The *Mangel Wurtzel* of agriculturists is one of the varieties of the latter.

### 33. SALSOLA.

1. *S. kali*, (*prickly Saltwort*,) stem herbaceous, procum-

erect; leaves bipinnate; involucre many-leaved; umbel terminal of many close rays. E. B. t. 987. (*Caucalis anthriscus*.)

HAB. Hedges, common. Fl. July, August. ☉

Stem 2-3 feet, erect, rough with deflexed hairs; leaflets deeply serrate, scabrous; umbellules dense, flat; involucre and involucellas of many subulate leaves; petals obovate, reddish or white; fruit small, very rough, with incurved bristles, tinged with purple.

2. *T. infesta*, (*spreading hedge Parsley*,) branches divaricate; leaves pinnate; involucre of 1 leaf, or none; umbels terminal of many close rays. E. B. t. 1314. (*Caucalis infesta*.) With. Bot. Arr. p. 283. (*C. arvensis*.)

HAB. Tillage fields at Ilstington. Fl. June—August. ☉

Stem 1-2 feet, much branched; leaflets lanceolate, almost pinnatifid; flowers yellowish white.

3. *T. nodosa*, (*knotted hedge Parsley*,) stem prostrate; leaves bipinnate; involucre many-leaved; umbels simple, axillary, subsessile, clustered. E. B. t. 199. (*Caucalis nodosa*.)

HAB. Waste places, fields, &c. frequent. Fl. June—August. ☉

Stem 6-18 inches, rigid, branched, scabrous; leaflets narrow, lobed and cut, the two lower pinnae remote; flowers minute, reddish; the outer fruit rough and bristly, the inner warty.

#### 41. DAUCUS.

1. *D. carota*, (*wild Carrot*,) stem hispid; leaves tripinnate, leaflets linear, lanceolate, cut; umbel when in fruit concave. E. B. t. 1174.

HAB. Fields and pastures, common. Fl. June, July. ♂

Root fusiform, aromatic; stem 12-18 inches, erect, furrowed, branched, hispid; umbels many rayed, flat when in flower, afterwards the outer and longer rays contract; flowers white or reddish; the central one deep-crimson. The origin of the garden carrot.

2. *D. maritimus*, (*sea-side Carrot*,) stem woolly; leaflets dilated, fleshy, rounded; umbel flat or subconvex in fruit. E. B. t. 2560.

HAB. Along the southern coast, frequent. Fl. July, August. ♂

Differs from the former in the broader leaflets and in the form of the umbel; there is no central red flower; hardly a distinct species.

#### 42. BUNIUM.

1. *B. bulbocastanum*, (*common Earth-nut*,) leaves tripinnate, linear, glabrous; involucre subtriphyllous. E. B. t. 988. (*B. flexuosum*.)

HAB. Hedges, &c common. FL May, June. 24.

Root a single, roundish, esculent, tuber; stem white and flexuose beneath the surface, about a foot high, erect, striate, smooth; umbels terminal, many rayed; flowers white, petals obcordate.

## 43. CONIUM.

1. *C. maculatum*, (*Hemlock*,) stem branched, smooth, spotted; leaves tripinnate. E. B. t. 1191.

HAB. Hedges and waste places, frequent. FL June, July. ♂

Stem 2-6 feet high, erect, polished, spotted with purple; leaves large, spreading, much divided, deep-shining green; the umbels and umbellules many rayed; the involucre of several short, ovate, lanceolate leaves; the petals white, inflexed, cordate; the whole plant very poisonous, and fetid when bruised.

## 44. BUPLEURUM.

1. *B. odontites*, (*narrow-leaved Hare's-ear*,) involucella of 5 ovate, awned, 3-ribbed leaves; branches widely spreading; umbels all stalked; leaves lanceolate. E. B. t. 2468.

HAB. Marble Rocks about Torquay, Dr. Beeke and Rev. A. Neck. FL July. 24

Stem branched and much divaricated; leaves lanceolate, acute, the lower ones rather spatulate; petals cream-colour, with a tinge of red: anthers yellow, large, and conspicuous; the herb is astringent, bitter, rigid, and smooth.

## 45. PEUCEDANUM.

1. *P. silaus*, (*meadow Sulphurwort*,) leaves tripinnate; leaflets linear, undivided; involucre of 1-2 leaves. E. B. t. 2142.

HAB. Meadows, frequent. Chudleigh. Between Exmouth and Lympstone, Rev. J. Jervis. FL July. 24

1-2 feet high, the umbellules short and distant; flowers pale-yellow; fruit ovate, furrowed, and but slightly bordered.

## 46. CRITHMUM.

1. *C. maritimum*, (*Samphire*,) leaves tri-ternate; leaflets lanceolate, fleshy. E. B. t. 819.

HAB. Along the cliffs, both of the northern and southern coasts, abundant. Teignmouth, Torbay, Plymouth, Lundy Island, Upcombe, &c. FL August. 24

Stems sub-erect, round, leafy, succulent; leaves smooth and glaucous; involucre and involucellas of 5-7 small, ovate, lanceolate leaves; petals inflexed, yellowish, or greenish-white; fruit spongy.

## 47. HERACLEUM.

1. *H. sphondylium* (*Cow-parsnip*,) leaves pinnate; leaflets broad, subpinnatifid, cut, serrate. E. B. t. 939.

HAB. Hedges and pastures, common. Fl. July. ♂

β. leaves pinnate; leaflets long, linear, (*M. angustifolium*, Hudson,) near Exmouth.

Stem 2-5 feet, strong, erect, angular, furrowed, rough; leaves very large, scabrous, variously cut, lobed and serrate; their petioles with a large ventricose, ribbed and sheathing base; umbels large, plane, of many strong rays; petals white or reddish; fruit broad, flat and smoothish.

#### 48. ANGELICA.

1. *A. sylvestris*, (*wild Angelica*,) leaves bipinnate; leaflets equal, ovate, serrate. E. B. t. 1128.

HAB. Moist woods, and in marshy situations, frequent. Fl. July. ♀

Stem 4-5 feet, erect, branched, smooth, purplish, glaucous; umbels large, convex, many rayed, crowded; involucre of about 2 linear leaves (occasionally wanting); involucella of many setaceous leaves; petals ovate, pinkish white; fruit small and roundish.

#### 49. SIUM.

1. *S. angustifolium*, (*narrow-leaved Water-parsnip*,) stem erect, leaves pinnate; leaflets unequally lobed and serrated; umbels pedunculate, opposite the leaves. E. B. t. 139.

HAB. Banks of the Dart near Totness. Fl. July, August. ♀

Roots creeping; stem branched and striate; leaflets 8-10 pair, sessile, ovate, the lowest pair remote; involucre of many deflexed lanceolate leaves, which are often subpinnatifid; involucellas of small ovate entire ones; petals whitish, obcordate, and inflexed.

2. *S. nodiflorum*, (*procumbent Water-parsnip*,) stem procumbent; leaves pinnate; leaflets ovate, sub-equally serrate; umbels sessile, opposite the leaves. E. B. t. 639.

HAB. In wet situations, common. Fl. July. ♀

Root creeping; stem 1-2 feet, branched, rarely creeping; leaflets 3-5 pair; involucre of one leaf, or wanting; involucellas ovate, length of the flower stalks; petals white, ovate, slightly incurved.

3. *S. repens*, (*creeping Water-parsnip*,) stem creeping and rooting; leaves pinnate; leaflets broadly ovate, cut and toothed; umbels shortly pedunculate, opposite the leaves. E. B. t. 1431.

HAB. Swamps on Bovey Heathfield. Fl. July, August. ♀

Stem 6-12 inches, slender; leaflets 2-5 pair, irregularly toothed; umbels of fewer rays than the last species; umbellules short, few, and dense; involucres and involucellas of many small, ovate, lanceolate, spreading leaves.

#### 50. SISON.

1. *S. inundatum*, (*Water-honewort*,) stem creeping; lower leaves capillary, multifid; umbels mostly 2-rayed. E. B. t. 227. (*Hydrocotyle inundata*.)

HAB. 'Bogs and wet situations, occasionally. Bovey Heathfield, Broadclyst Heath. Fl. June, July. ☉ or ♂ ?

Stem 6-18 inches, creeping and floating, round, weak, branched; upper leaves pinnate, with small lanceolate segments; involucre wanting; involucella mostly of 4 leaves; umbellules minute, about 5-flowered; petals white, entire, acute.

2. *S. segetum*, (*Corn-honewort*,) stem erect; leaves pinnate; leaflets broadly ovate, serrate; umbels drooping, their rays unequal. E. B. t. 228.

HAB. Fields, frequent. Chudleigh, Ashburton, Ilsington, Lymptone. Fl. July. ☉

Stem 12-18 inches, spreading, branched; leaves few, mostly radical; involucre of 2 linear leaves; petals white, minute; the fruit erect.

3. *S. amomum*, (*Hedge-honewort*,) stem erect; leaves pinnate; leaflets ovate, cut, serrate; umbels erect. E. B. t. 954.

HAB. Hedges, frequent. Chudleigh, Ilsington, Ashburton, Topsham, Marychurch, &c. Fl. August. ☉

Stem 1-2 feet, branched, scored, smooth; involucre of 3 leaves; involucella of 5 very small ones; umbels 4-rayed, erect while flowering, mostly terminal; flowers white.

## 51. ŒNANTHE.

1. *Œ. fistulosa* (*common Water-dropwort*,) root creeping, stoloniferous; stem leaves pinnate, their main petiole cylindrical, tubular. E. B. t. 363.

HAB. Ditches and streams, &c. Chudleigh, Ilsington, Powderham Marshes. Fl. July, August. ♀

Root tuberous, tubers blunt, sessile, crowded; stem erect, 2-3 feet, tubular and fistulose, smooth, glaucous, branched; radical leaves bipinnate; leaflets plane, often lobed; stem leaves with few and small leaflets, confined to the upper extremities; umbels small, alternate towards the summit, on long peduncles, with 3-5 primary rays; involucre often of 1 leaf, or wanting; involucella of several lanceolate leaflets; petals obcordate, pinkish white.

2. *Œ. pimpinelloides*, (*parsley Water-dropwort*,) radical leaflets wedge-shape, cloven; those of the stem linear, entire, very long; involucre of many linear leaves. E. B. t. 347.

HAB. Courtland Lodge near Exmouth. Lymptone. Near the Exe, Mr. Jacob. Fl. July. ♀

Root tuberous, tubers slender, fusiform, peduncled; stem slightly branched, angular; umbels unequal, many rayed; umbellules thickly crowded, almost forming a spherical head when in fruit.

3. *Œ. crocata*, (*hemlock Water-dropwort*,) all the leaflets wedge-shape, cut nearly equal; involucre many leafed. E. B. t. 2313.

HAB. Wet meadows and sides of streams, common. Exeter, Chudleigh, Usington, Moreton, &c. Fl. July. ☿

Stems 3-5 feet, branched, furrowed, leafy; leaves bipinnate; leaflets opposite, sessile, smooth; umbels large, terminal, many rayed; involucre and involucella many leaved, their form liable to vary; flowers white. Whole plant poisonous.

B. Umbels with a partial involucre only.

### 52. PHELLANDRIUM.

1. *P. aquaticum*, (*water Hemlock*,) leaves tripinnate; segments divaricate; umbels axillary. E. B. t. 684.

HAB. Streams, ponds, and ditches. Fl. July. ☿

Stem 1-3 feet, round, furrowed, erect, very thick below, branched in a bushy manner; leaves dark-green, smooth, spreading; umbels opposite the leaves, many rayed, rather small; involucella of many small lanceolate leaves. This genus has been joined to the last by Decandolle and others; it differs in the absence of an involucre, in the flowers being all fertile and not radiate, and in the arrangement of the vittæ, or channels containing a resinous oil.

### 53. ÆTHUSA.

1. *Æ. cynapium*, (*fool's Parsley*,) E. B. t. 1192.

HAB. Fields and hedges, common. Fl. June—August. ☉

A foot high, erect, branched, smooth, striate; leaves bi- or tripinnate, dark green, smooth; segments ovate, lanceolate, variously cut; umbels terminal on longish peduncles; umbellules small and distant; flowers white. It has a nauseous smell, and is supposed to possess poisonous qualities.

### 54. SCANDIX.

1. *S. pecten veneris*, (*Shepherd's-needle*,) Stem rough; leaves tripinnate, linear, multifid. E. B. t. 1397.

HAB. Tillage fields, common. Fl. June, July. ☉

Stem spreading, branched, furrowed, a foot high; leaves smooth and dark green; involucellas many leaved, their segments cut; umbels irregular, occasionally simple, but mostly 2 or 3 rayed, the umbellules small; the fruit furnished with a beak 1 or 2 inches long.

### 55. ANTHRISCUS.

1. *A. vulgaris*, (*rough Chervil*,) stem smooth; leaves tripinnate, leaflets obtuse; umbels mostly lateral. Pers. Syn. Pl. v. i. p. 820. E. B. t. 818. (*Scandix anthriscus*.)

HAB. Waste places, &c. common. Fl. May, June. ☉

Stem 2-3 feet, spreading, branched, striate, swelling beneath each joint; leaves pale-green; involucellas of several small ovate leaves; petals white, nearly equal, obcordate; fruit with hooked bristles, and a smooth bifid beak, about half its length.

### 56. CHÆROPHYLLUM.

1. *Ch. sylvestre*, (*smooth Cow-parsley*,) stem smooth,



slightly swelling below the joints; leaves tripinnate; fruit quite smooth. E. B. t. 752.

HAB. Hedges, &c. frequent. Chudleigh, Topsham, Manaton, banks of the Tavy, &c. Fl. May, June. ♀

Stem 3-4 feet high, erect, branched, pubescent near the base; leaflets ovate, lanceolate, deeply cut, terminal one attenuated; umbels many rayed on long peduncles, at first slightly drooping.

2. *Ch. temulentum*, (rough Cow-parsley,) stem rough, swelling below the joints; leaves bipinnate; fruit obsoletely ribbed. E. B. t. 1571.

HAB. Fields and hedges, common. Fl. June, July. ♀

Stem 3-4 feet, rough, striate, purplish, and spotted; leaflets pinnatifid, cut; umbels of many rays, clothed with bristly hairs, at first drooping.

C. No involucre or involuella.

#### 57. SMYRNIUM.

1. *S. olusatrum*, (*Alexanders*,) stem leaves ternate, serrate, petiolate. E. B. t. 230.

HAB. Chudleigh rock. Cliffs at Lymptone. Ashburton. Near Dawlish, Rev. R. P. Welland. Between Tor Abbey and Livermead, Rev. A. Neck. Fl. May, June. ♂

Stems 2-4 feet high, stout, furrowed, pale yellow green; leaves broad, shining, succulent; radical ones tri-ternate on long petioles, with a broad membranous base; umbels terminal, large, globose, many-rayed, on stout peduncles; flowers small, yellow-green; petals inflexed; fruit large, nearly black, when ripe.

#### 58. ANETHUM.

1. *A. fœniculum*, (*wild Fennel*,) leaves tripinnate; leaflets setaceous, deflexed. E. B. t. 1208.

HAB. Chudleigh Rock, abundant. Cliffs at Topsham. Hedges near Sidmouth, Dawlish, and Teignmouth. Knighton Beaumont, near Ingsdon. Livermead Sands, near Torquay, Rev. A. Neck. In the new Turnpike-road near Tor Abbey. Rocks at Ilfracombe, Polwhele. Fl. July, August. ♂

Stem 2-4 feet high, erect, branched, blue-green; leaves dark-green; umbels flat, many-rayed; flowers yellow; petals incurved; fruit gibbous.

#### 59. PIMPINELLA.

1. *P. saxifraga*, (*common Burnet Saxifrage*,) radical leaves pinnate; leaflets roundish, sharply serrate; cauline leaves bipinnate, their leaflets linear. E. B. t. 407.

HAB. Dry pastures, common. Fl. July, August. ♀

Root stout and aromatic; stem 1-2 feet high, erect, round, roughish, slightly branched above; umbels terminal, flattish, many-rayed, on long peduncles, drooping at first; flowers white; stamens long; fruit small.

2. *P. magna*, (*great Burnet Saxifrage*,) leaves all pinnate; leaflets all ovate, unequally 3-lobed. E. B. t. 408.

HAB. Between Saltaah Ferry and Plymouth. In hedges by Nutley, in the road to Tavistock. Hedges in the road between Plymouth and Totness till as far as the 8th mile-stone, Sir Francis Drake and Mr. Hudson. Fl. July, August. ♀

Differs from the former in its larger root, large umbels, and dissected leaves.

#### 60. APIUM.

1. *A. graveolens*, (*wild Celery*,) stem furrowed; cauline leaves ternate, with wedge-shaped irregularly cut leaflets. E. B. t. 1210.

HAB. Marshy places, occasionally. Topsham Marshes. Lymptone. Hackney Marshes near Kingsteignton. Banks of the Dart near Totness. Kingskerswell, near the Church; and near Torquay, Rev. A. Neck. Fl. August. ♂

Stems 2-3 feet high, erect, branched, spreading, smooth; leaves shining, the radical ones pinnate on long petioles; the cauline ones nearly sessile; umbels many-rayed, lateral and terminal, often subsessile; umbellules very small, acrid, and poisonous; but these qualities are corrected by cultivation.

The *Garden Parsley* (*Apium petroselinum*) comes originally from Sardinia, and though it may have naturalized itself at a few places along the southern coast, it cannot be considered as indigenous. We notice this, as it has been included in some recent provincial Floras.

#### 61. ÆGOPODIUM.

1. *Æ. podagraria*, (*Goatweed*,) E. B. t. 940. Sprengel, Umbel. 35. (*Sison podagraria*.)

HAB. Hedges at Lymptone, Moreton, and North Bovey. Woodland Churchyard. About Totness. Fl. May, June. ♀

Root creeping; stem 1-3 feet high, furrowed, slightly branched; radical leaves bi-ternate on long petioles; stem leaves ternate; leaflets large, smooth, ovate, unequally serrate; umbels erect, terminal, flattish; petals white; fruit subcompressed. It has been united to the genus *Sison* by Sprengel in the work above referred to.

### III. TRIGYNIA.

#### 62. VIBURNUM.

1. *V. lantana*, (*mealy Guelder Rose*,) leaves cordate, serrate, veined, downy beneath. E. B. t. 331.

HAB. Woods and hedges, frequent. Ilington, Ashburton, Chudleigh, Totness, Branscombe, &c. Fl. May. ♀

A large much-branched shrub, with white flowers in large dense cymes, and purplish-black berries.

2. *V. opulus*, (*common Guelder Rose*,) leaves 3-lobed, acuminate, serrate, glabrous, on glandular petioles. E. B. t. 332.

HAB. Woods and hedges, frequent. Between Moreton and North Bovey; Ilington, Ashburton, Chudleigh, banks of the Dart. Fl. June. ♀

A shrub with opposite branches, large broad leaves, and terminal flat cymes, erect when in flower, afterwards drooping: flowers white, the inner ones small, equal, and fertile; the outer very large, unequal, and radiating, destitute of stamens and pistils; berries red, drooping, and succulent.

### 63. SAMBUCUS.

1. *S. ebulus*, (*dwarf Elder*,) stem herbaceous; leaves pinnate; leaflets lanceolate; stipules foliaceous; cymes with 3 main branches. E. B. t. 475.

HAB. Dalich, Woodbury Hill, Miss Filmore. In a field at Staverton, Polwhele. Marychurch, Rev. A. Neck. Fl. July. ♀

Root creeping; stems 2-4 feet, erect, simple, furrowed; leaves with 3 or 4 pair of dark-green serrated leaflets; cymes large, dense, and terminal, their branches pilose; flowers numerous, purplish; stamens erect; berries globular, purple-black; plant fetid and cathartic.

2. *S. nigra*, (*common Elder*,) stem arborescent; leaves pinnate; leaflets ovate; cymes with 5 main branches. E. B. t. 476.

HAB. Woods and hedges, common. Fl. June. ♀

A small tree, with the stem and branches full of a light white pith; leaves dull-green, with 2-3 pair of smooth serrate leaflets; cymes terminal, large, flat, and cream-coloured; flowers numerous and strongly scented; stamens spreading; berries purple-black. There is a variety with lacinated leaflets, (*Parsley-leaved Elder*,) and another with white fruit. The pith is used in electrical experiments; the bark and flowers medicinally; the fruit for wine and preserves.

### 64. CORRIGIOLA.

1. *C. littoralis*, (*sand Strapwort*,) E. B. t. 668. With. Bot. Arr. p. 318.

HAB. Slapton Sands, and near the Start Point, Mr. Hudson. Staddon Point, Dr. Moore.

Root slender, with many, mostly simple, prostrate stems; leaves linear, lanceolate, fleshy, glaucous; flowers white, in a terminal bracteated thyrse.

## IV. PENTAGYNIA.

### 65. STATICE.

1. *S. armeria*, (*Thrift*,) leaves linear; scape simple, bearing a round head of flowers. E. B. t. 226.

HAB. Salt marshes, and along the sea coast, common. Fl. July, Aug. ♀

Grows in thick tufts with numerous channelled, short, glabrous leaves, all radical; scapes 3-9 inches, sheathed at top by a ragged, reddish membrane, united above to a brown 3-leaved involucre; the flowers are rose-colour, and intermixed with scales.

2. *S. limonium*, (*sea Lavender*,) leaves ovate, lanceolate, tipped with a small point; scape round, paniculate. E. B. t. 102.

HAB. Salt marshes; common. Marshes at Topsham, Clyst, and Exminster. Rocks around Torbay. Fl. July, August. 24

6-12 inches high; leaves large, thick, glabrous, undulate, obtuse, and nerveless, all radical; the flowers are bright-blue, crowded, secund, and accompanied with membranaceous scales, on an alternately branched scape.

## 66. LINUM.

1. *L. usitatissimum*, (*common Flax*,) stem erect, mostly solitary; leaves lanceolate, alternate; cal. sepals ovate, acute, 3-nerved; petals crenate. E. B. t. 1357.

HAB. In tillage fields, frequent. Fl. July. ☉

Stem 1-2 feet high, round, smooth, simple at the base, branched in a panicked manner above; leaves distant, glabrous, entire, 3-nerved; flowers large, blue; caps. roundish pointed. From the stems of this species flax is produced, and from the seeds, the linseed oil.

2. *L. angustifolium*, (*narrow-leaved Flax*,) stems numerous, ascending; leaves alternate, linear, lanceolate, 3-nerved; cal. sepals ovate, acuminate, 3-nerved. E. B. t. 381.

HAB. Fields and hedges, frequent. Chudleigh, Marychurch, Totness, Dartington Bridge. Fl. July. 24

It differs from the former in being perennial, in the numerous stems, and the smaller flowers, which are paler with purple veins, and entire or notched petals.

3. *L. catharticum*, (*purging Flax*,) stem dichotomous above; leaves opposite, oblong; petals acute. E. B. t. 382.

HAB. Dry exposed pastures, common. Fl. June—August. ☉

Stems 2-8 inches, slender, erect or spreading, many springing from the same base, then simple till near the top; flowers small, white, drooping before expansion.

## V. HEXAGYNIA.

### 67. DROSER.

1. *D. rotundifolia*, (*round-leaved Sundew*,) leaves radical, orbicular, petiolate, spreading; scape bearing a simple raceme. E. B. t. 867.

HAB. In wet boggy situations, frequent. Haldon, Dartmoor, High Tor Down, Woodbury Hill, Bovey Heathfield, &c. Fl. July, August. 24

The leaves naked beneath, curved above and on the margins with viscid pelucid glands on crimson peduncles; scapes 3-6 inches high, slender, and smooth; flowers small, whitish, and subsecund.

2. *D. longifolia*, (*long-leaved Sundew*,) leaves radical, obovate, tapering below into a long erect peduncle; scape with a simple raceme. E. B. t. 868.

HAB. In similar situations with the former, and in all the above-named habitats. Fl. July, August. 24

Has the habit of the preceding, and differs chiefly in the form of the leaf.

## VI. POLYGYNIA.

### 68. MYOSURUS.

1. *M. minimus*, (*Mousetail*.) E. B. t. 435.

HAB. Cliffs near Exmouth, Rev. J. Jervis. Fl. May. ☉

A small plant 2-4 inches high, the leaves are radical, erect, fleshy, linear, spatulate; scapes slender, bearing a small yellowish flower; receptacle of the numerous seeds becoming elongated, and resembling a mouse's tail.

## VI. HEXANDRIA.

### I. MONOGYNIA.

#### 1. GALANTHUS.

1. *G. nivalis*, (*Snowdrop*.) E. B. t. 19.

HAB. Woods and orchards, occasionally. Beckey Fall. Beside the stream under Chudleigh Rock. Orchards at Bickington and Ashburton. In a field near Moreton. Old orchards about Marychurch, Rev. A. Neck. Fl. January, February. ♀

Root bulbous; leaves 2, linear, obtuse, glaucous green; scape 5-8 inches, round, smooth, 1-flowered; flower solitary, drooping, the inner segments striated with green.

#### 2. NARCISSUS.

1. *N. biflorus*, (*pale Narcissus*.) leaves carinate, the margins inflexed; spathe 2-flowered; nectary very short, rotate, membranaceous, crenate. E. B. t. 276.

HAB. In several orchards at Ilington, abundant. Manaton in similar situations. Fields adjoining the Dartmouth road, at Paignton, Rev. A. Neck. Fl. April, May. ♀

Scape 8-12 inches, erect; spathe 1-3 flowered; flowers yellowish-white, drooping.

2. *N. pseudo-Narcissus*, (*common Daffodil*.) spathe 1-flowered; nectary campanulate, margins curled as long as the segments of the perianth. E. B. t. 17.

HAB. Woods, along the banks of streams, and in sheltered hedges and orchards, frequent. Fl. March, April. ♀

Scape 8-12 inches, compressed, 2-edged; leaves long, broadly linear, keeled; flowers large, drooping, pale-yellow; nectary golden-yellow, its margin obsolete 6-lobed.

#### 3. ALLIUM.

1. *A. vineale*, (*Crow Garlic*.) leaves rounded, fistulose; umbel bulbiferous; stamens tricuspidate. E. B. t. 1974.

HAB. Meadows near Chudleigh Bridge. About Torquay and Marychurch, Rev. A. Neck. Fl. June. 24

Root an ovate bulb; stem slender, 1-2 feet high; leaves few, long, hollow; spathe deciduous; umbel small, furnished with small, acute, greenish, densely crowded bulbs; flowers greenish flesh-colour, few, erect, frequently wanting; stamens longer than the petals, each with 3 filaments, the centre one shortest and antheriferous.

2. *A. ursinum*, (*broad-leaved Garlic*, or *Ramsons*,) leaves large, plane, oblong, lanceolate, petiolate; scape triangular; umbel nearly plane. E. B. t. 122.

HAB. Moist hedge-banks, meadows, and woods, frequent. Road side, near Ashburton; banks of the Teign and Dart, in various places; near Endsleigh; ditches of the old castle at Totness. Fl. May, June. 24

Leaves all radical, shorter than the scape, acute; scape about a foot high, weak, erect; spathe of 2 ovate acute leaves; umbel many-rayed, without bulbs; flowers white. The plant has a very strong disagreeable scent when bruised.

#### 4. TULIPA.

1. *T. sylvestris*, (*wild Tulip*,) leaves lanceolate; flowers solitary, somewhat drooping; stamens hairy at the base; stigma obtuse. E. B. t. 63.

HAB. In an orchard near Ashton. Meadow near Sidmouth Church, Rev. A. Neck.; (rather a suspicious situation as regards a wild state.) Fl. April. 24

Stem erect, a foot high; flower yellow, sweet-scented, its petals ovate, acuminate, bearded at the tip; anthers and pollen yellow.

#### 5. ORNITHOGALUM.

1. *O. umbellatum*, (*common Star of Bethlehem*,) flowers in a corymb; peduncles longer than the bractees; filaments subulate. E. B. t. 730.

HAB. In orchards at Ilsington, apparently wild. Fl. April, May. 24

8-10 inches high; leaves linear, acuminate, grooved; flowers large, few, on stalks of different lengths, each having a membranous lanceolate bractee at the base; segments of the perianth green without, white within and on the margin.

#### 6. HYACINTHUS.

1. *H. non-scriptus*, (*wild Hyacinth*, or *Harebell*,) raceme drooping; bractees in pairs; perianth segments revolute at the summits. E. B. t. 377.

HAB. Woods and hedges, common. Fl. May. 24

Scape 9-12 inches high, round, succulent; leaves all radical, long, linear, channelled, acuminate; flowers large, pendent, shortly pedicellate, purplish blue, occasionally white.



## 7. SCILLA.

1. *S. autumnalis*, (*autumnal Squill*,) leaves linear; flowers in a corymb; peduncles without bracteas. E. B. t. 78.

HAB. Rocks around Torbay. Babbacombe; Chapel Hill, near Tor Abbey; Berry Head. Fl. September. 2

Root an ovate bulb; scape twice as long as the leaves, erect, round; peduncles short; flowers rose-colour, the germs and stamens blue.

## 8. NARTHECIUM.

1. *N. ossifragum*, (*Asphodel*.) E. B. t. 535.

HAB. Bogs, common. Dartmoor, Haldon, Woodbury Hill, &c. Fl. July, August. 2

Root creeping; scape 6-8 inches, decumbent at the base, with several lanceolate scales; leaves all radical, ensiform, equitant, much shorter than the scape; flowers bright-yellow, erect, shortly pedunculate on a terminal spike; leaves of the perianth linear, oblong, persistent; capsule prismatic, brown, shining.

## 9. ASPARAGUS.

1. *A. officinalis*, (*common Asparagus*,) unarmed; stem herbaceous, erect, rounded, much branched; leaves setaceous, fasciculate. E. B. t. 339.

HAB. Banks of the Exe between Topsham and Lympstone, Miss Filmore. Fl. August. 2

Root creeping, throwing up many scaly erect stems, 9-18 inches high; flowers small, greenish white, axillary, drooping, on short, jointed peduncles; berries bright-scarlet, seeds black; becomes a much higher and stouter plant when cultivated.

## 10. ACORUS.

1. *A. calamus*, (*sweet Flag*,) floral leaf much longer than the spike. E. B. t. 356.

HAB. New Cut near Exeter, Rev. W. Hincks. Haine Banks, Exeter, Rev. R. P. Welland. Fl. June. 2

Root creeping; stem compressed, bordered, expanding into a leaf; leaves ensiform, equitant, very long; spadix 3 inches long, closely set with florets in a spiral line; the perianth glumaceous. The root is aromatic.

## 11. JUNCUS.

τ. Culm naked.

1. *J. acutus*, (*great sharp Sea-rush*,) culm pungent; panicle lateral; bracteæ spinous; caps. mucronate, subrotund, twice the length of the perianth. E. B. t. 1614. Bicheno in Linn. Trans. vol. xii.

HAB. Braunton Burroughs, Dr. Wavell. Goodrington Bog near Paignton, Rev. A. Neck. Fl. July. 2

Root fibrous; stem 3 feet high, erect, cylindrical, terminating in a very sharp rigid point; leaves like the stem, but smaller and shorter; panicle compound, many flowered; bractæ membranous and dilated at the base, pungent; flowers clustered; perianth segments ovate, obtuse; caps. shining.

2. *J. maritimus*, (*lesser sharp Sea-rush*,) culm pungent; panicle lateral, sub-proliferous; bractæ spinous; caps. oblong, acute, the length of the perianth. E. B. t. 1725.

HAB. Marshes at Kingsteignton. Fl. August. 24

The stem 2 or more feet high, glaucous, with brown polished sheaths at the base; segments of the perianth lanceolate, acute, jagged towards the point. A more slender, lower plant, with a smaller capsule than the last.

3. *J. glaucus*, (*common hard Rush*,) culm striate, rigid; panicle lateral, erect; caps. elliptical, acute, shorter than the perianth. E. B. t. 665. With. Bot. Arr. p. 345. (*J. inflexus*.)

HAB. Wet pastures, moors, &c. frequent. Fl. July. 24

Root creeping; stem glaucous, 1-2 feet high, terminating in a sharp, frequently incurved summit; sheathed at the base with large brown shining scales; panicle bursting about one-third below the apex; perianth segments striate, very acuminate; flowers hexandrous; caps. acute, 3-sided, shining.

4. *J. conglomeratus*, (*round-headed Rush*,) panicle lateral, branched, dense, globose; perianth triandrous; caps. very obtuse. E. B. t. 835.

HAB. Wet places, common. Fl. July. 24

Root creeping; stem 2 feet high, sheathed at the base with large black, acute scales; perianth segments lanceolate, 2-nerved; stamens 3. The dense panicle chiefly distinguishes this from its congeners; it is much used in common with the next species for candle-wicks, mats, chair-bottoms, &c. and formerly to strew floors.

5. *J. effusus*, (*common soft Rush*,) panicle lateral, compound, lax, spreading, divaricate; caps. turbinate, the apex subtruncate. E. B. t. 836.

HAB. Wet places, common. Fl. July. 24

Root creeping; stem soft, pliable, and finely striate; panicle effuse, very much branched; perianth segments lanceolate, subulate, 2-nerved; the flowers frequently triandrous; distinguished from the *J. glaucus* by the absence of the glaucous hue on the stems; and from *J. conglomeratus* by its effuse panicle. There are intermediate states between this and the last; they may then be distinguished by observing the distance the panicle breaks out from the summit; *J. effusus* has frequently one-third of the stem above it, the other never more than three or four inches; when further advanced, the shape of the capsule sufficiently distinguishes them.

τ τ. Leaves channelled.

6. *J. squarrosus*, (*heath Rush*,) culm naked; leaves seta-

ceous ; panicle terminal, elongated ; caps. obovate. E. B. t. 933.

HAB. Heathy Moors, &c. common. Fl June, July. 2

Root fibrous ; culm a foot or more, erect, rigid, striate ; leaves in tufts, rigid, smooth, pointed, sheathing at the base, not half the length of the culm ; panicle erect ; bractæ membranous, sheathing, striate, terminating in a stiff point ; perianth leaves lanceolate, with scariose margins ; caps. obtuse, mucronate, shining.

7. *J. bulbosus*, (round-fruited *Rush*,) culm simple, leafy, compressed ; leaves linear, setaceous ; panicle terminal, shorter than the bractea ; caps. roundish, longer than the obtuse perianth. E. B. t. 934. Bicheno Linn. Trans. vol. xii. p. 307. (*J. compressus*.)

β. *canosus*, panicle simple, few flowered, longer than the bractea ; caps. the length of the calyx. Bicheno Linn. Trans. vol. xii. p. 309. (*J. canosus*.)

HAB. In marshy situations, frequent. β. common in salt marshes. Fl. July. 2

Root creeping ; culms numerous, 6-12 inches, simple, smooth, leafy, compressed upwards ; leaves long and mostly radical ; bractæ channelled, the lower one mostly longer than the panicle ; panicle branched, irregular, the first branch generally longer than the rest ; leaves of the perianth scariose at the margin, mostly shorter than the obtuse capsule.

8. *J. bufonius*, (toad *Rush*,) culm dichotomous ; leaves angular ; flowers solitary, sessile ; perianth setaceous, twice the length of the capsule. E. B. t. 802.

HAB. In wet situations, common. Fl. July, August. ☉

Root fibrous ; stem 2-10 inches high, leafy ; leaves linear, dilated at the base, not jointed ; leaves of the perianth pale green, with white scariose margins ; the long, silky, pale, solitary perianth, characterises this species ; it is often gemmiparous, like others of its congeners.

9. *J. uliginosus*, (little bulbous *Rush*,) culm bulbous at the base ; leaves setaceous, grooved ; flowers 2-5 in clusters, subsessile ; caps. obtuse, longer than the perianth. E. B. t. 801. Bicheno Linn. Trans. vol. xii. p. 315. Greville, Fl. Edinensis, p. 79.

HAB. Wet situations, common. Fl. June, July. 2

Root fibrous ; culm 3-12 inches high, sometimes erect, but more frequently ascending, or prostrate, or rooting at the joints ; flowers in rather distant clusters, sometimes forming a kind of terminal panicle, sometimes arranged irregularly along the prostrate culm ; the clusters very often foliaceous and gemmiferous ; bractæ small, scariose, shorter than the flowers ; perianth segments acuminate, scariose at the margin, chocolate-coloured, with a green keel ; caps. mostly longer, in the prostrate var. shorter than the perianth.

ттт. Leaves jointed.

10. *J. acutiflorus*, (*sharp-flowered Rush*,) leaves nodoso-articulate; panicle terminal, compound; perianth leaves acutely lanceolate; caps. acute, the length of the perianth. E. B. t. 238.

HAB. Wet marshy situations, common. Fl. June. 24

Root creeping; culms 1-3 feet high, erect, subcompressed, knotty, jointed; panicle terminal, much divided, with long diffuse branches; perianth leaves all of a similar consistence; caps. 3-sided, of a lightish brown colour.

11. *J. lampocarpus*, (*shining-fruited Rush*,) panicle terminal; perianth with oblong lanceolate leaves; caps. large, black, acute, shining, longer than the perianth. E. B. t. 2143.

HAB. Bogs and marshy situations, common. Fl. July, August. 24

Root creeping; stem 4-12 or more inches high; leaves compressed, sheathing, rigid, pointed; panicle with elongated, stiff, nearly simple branches; flowers in sessile clusters of 5 or 6; caps. ovate, acute, 3-sided, tipped with the persistent style; in an advanced state, easily distinguished from *J. obtusiflorus* and *J. acutiflorus* by the large dark varnished capsule; it has besides a more simple panicle.

## 12. LUZULA.

1. *L. sylvatica*, (*great hairy Wood-rush*,) panicle subcymose, doubly compound; flowers in clusters of 3-4 elongated peduncles; perianth awned; caruncle obsolete. Bicheno in Linn. Trans. vol. xii. p. 331. E. B. t. 737. (*Juncus sylvaticus*.) With. Bot. Arr. v. ii. p. 349. (*Juncus maximus*.)

HAB. Woods, banks of streams, &c. frequent. Banks of the Exe, Dart, Teign, &c. in various places. In the crevices of Hightor and Blackstone Rocks. Fl. May, June. 24

Root fibrous; stem 1-2 feet high; leaves broad, shining, striate, with long marginal hairs; bractes linear, hairy, acute; caps. ovate, mucronate; the caruncles (or curved appendage at the top of the seed) obsolete; the largest of the genus.

2. *L. pilosa*, (*small hairy Wood-rush*,) panicle cymose, divaricated, subcompound; flowers solitary; seed with an uncinat caruncle. Bicheno in Linn. Trans. vol. xii. p. 329. E. B. t. 736. (*J. pilosus*.)

HAB. Woods and hedges, common. Fl. March, April. 24

Root stoloniferous; culm 6-12 inches, slender, simple, leafy; leaves linear, lanceolate, the margins, especially towards the base, clothed with very long, white, soft hairs; flowers dark brown; caps. 3-sided, inversely heart-shaped, suddenly narrower towards the middle. The divaricate dark panicle and peculiar shape of the caruncle distinguishes this from the next species, and its solitary flowers from the rest of the genus.

3. *L. Fosteri*, (*slender hairy Wood-rush*,) panicle cymose,

erect; flowers solitary; caps. acute; caruncle erect, obtuse. Bicheno, Linn. Trans. vol. xii. p. 330. E. B. t. 1293. (*Juncus Fosteri*.)

HAB. Woods and hedges, frequent. Ilington, Manaton, North Bovey, Moreton. Fl. April, May. 2

Root fibrous; culm 8-12 inches high; leaves narrower than the preceding, upper ones largest; the panicle branches never divaricate or refracted; perianth light brown; caps. roundish, ovate, mucronate.

4. *L. campestris*, (small hairy Wood-rush,) spikes sessile and pedunculated; perianth with lanceolate mucronate leaves; caps. obtuse, shorter than the perianth. Bicheno, Linn. Trans. vol. xii. p. 334. E. B. t. 672. (*Juncus campestris*.)

β. taller, with the spikes of the flowers in one roundish head. Willd. (*Juncus sudeticus*.) Pers. Syn. i. 386. (*J. erectus*.)

HAB. Dry situations, common. β. in wet moory ground. Fl. April, May. 2

Root creeping; culm 4-12 inches high, leafy; leaves linear acuminate, tufted; Flowers in spikes, the lowermost sessile, the anthers pedunculate; bracteas 3 or 4 at the base of each flower, membranous, fringed, shining; caps. ob-ovate, obtuse, 3-seeded; seeds reniform, caruncle enlarged at the bottom of the seed, and attaching it to the receptacle.

We should perhaps have noticed a third variety, growing in dry situations, with the ovate heads of flowers on long peduncles in a somewhat umbellate form. This species varies much, but the spiked flowers and obtuse caps. prevent any chance of mistake. (The marginal hairs in this genus are composed of a number of smaller fibres, which are jointed and twisted, and by applying moisture when dry, untwist themselves.)

### 13. BERBERIS.

1. *B. vulgaris*, (common Barberry,) leaves obovate, ciliato-serrate; spines 3-forked; racemes pendulous. E. B. t. 49.

HAB. In hedges, occasionally, hardly wild. About Chudleigh and Ilington. Near Plymouth. Fl. May, June. 2

A bushy shrub, with erect spinous stems; smooth fasciculate leaves; flowers yellow, with curious elastic stamens and oblong red berries, which are very acid, and used in pickles, &c.

### 14. PEPLIS.

1. *P. portula*, (water Purslane,) leaves obovate; flowers axillary, solitary. E. B. t. 1211.

HAB. Wet situations, frequent. Peck Pits at Lustleigh. Buckland in the Moor. Widdecombe in the Moor. Ilington. Bovey Heathfield, Woodbury Hill, &c. Fl. July, August. ☉

A procumbent stem, 3-9 inches long, rooting at the joints, sometimes floating; the leaves opposite, glabrous, entire, tapering at the base; flowers reddish; petals very minute, often wanting; caps. round, sub-pellucid, with numerous seeds.

## II. TRIGYNIA.

## 15. RUMEX.

τ. Flowers all perfect. (*Lapatha*, or *Docks*.)

1. *R. aquaticus*, (*great Water-dock*,) leaves lanceolate, acute, the lower ones cordate at the base of the perianth; per. valves ovate, entire, obsoletely granuliferous. E. B. t. 2104. With. Bot. Arr. p. 354. (*R. paludosus*.)

HAB. River Exe near Countess Wear. Fl. July, August. 24

The largest of the docks, from 3-5 feet high; the leaves often from 1-2 feet; the whorl crowded. The large root has a very astringent quality.

2. *R. crispus*, (*curled Dock*,) leaves lanceolate, waved, acute; per. valves large, entire, cordate, granuliferous. E. B. t. 1998.

HAB. In waste places, common. Fl. June, July. 24

An angular, erect, branched stem, 2-3 feet high; long narrow petiolate leaves, much curled at the margin; whorls of flowers numerous and crowded; large cordate green valves with reddish tubercles.

3. *R. acutus*, (*sharp Dock*,) leaves heart-oblong, acuminate; whorls leafy; per. valves oblong, subdentate, granuliferous. E. B. t. 724.

HAB. Fields, waste places, &c. common. Fl. July. 24

A furrowed branched stem; leaves long and narrow; whorls small, distant, each with a small leaf.

*β. sanguineus*, leaves mostly with red veins; valves entire. E. B. t. 1533. (*R. sanguineus*.)

HAB. In an orchard near Beckey Fall; Ilsington, near the village.

4. *R. pulcher*, (*fiddle Dock*,) stem diffuse; radical leaves panduriform; per. valves oblong, toothed, one chiefly granuliferous. E. B. t. 1576.

HAB. Dry banks at Tor-moham, Rev. A. Neck. About Chudleigh. Fl. August. 24

The stem straggling; the upper leaves oblong; the whorls small, distant, and leafy.

5. *R. obtusifolius*, (*broad-leaved Dock*,) stem roughish; radical leaves cordate, oblong, obtuse; per. valves ovate, toothed, one chiefly granuliferous. E. B. t. 1999.

HAB. Waste places, hedges, &c. common. Fl. July. 24

The stem branched, erect, 2-3 feet high, with broad, large, radical leaves, generally crisped at the margin; the whorls rather close and leafy.

6. *R. maritimus*, (*golden Dock*,) leaves linear-lanceolate;



whorls crowded; per. valves triangular, tubercled, fringed with setaceous teeth. E. B. t. 725.

HAB. Marshes near the sea, frequent. Banks of the canal near Exeter.  
Fl. July, August. 2

Stem 2-3 feet, erect, sulcate, branched; the narrow leaves and bright-coloured singularly fringed valves characterize this species.

7. *R. palustris*, (*marsh Dock*,) leaves linear, lanceolate; whorls distant; per. valves lanceolate, tubercled, toothed at the base. E. B. t. 1932.

HAB. In wet marshy situations, frequent. Bovey Heathfield. Fl. June, July. 2

Differs from the former in having more distant whorls and less brightly-coloured valves, with shorter setaceous teeth: (probably not distinct from it.)

11. Flowers diœcious. (*Sorrels*.)

8. *R. acetosa*, (*common Sorrel*,) leaves oblong, sagittate, their segments bent towards the petiole. E. B. t. 127.

HAB. Pastures, &c. common. Fl. June. 2

Stem erect, mostly simple, 1-2 feet high; the radical leaves on long petioles, obtuse; the cauline ones sessile, embracing the stem, more acute; the valves large, cordate, obtuse, purplish and reticulated occasionally, granu-  
liferous. The whole plant has a pleasant and wholesome acidity.

9. *R. acetosella*, (*Sheep's Sorrel*,) leaves lanceolate, hastate, their lobes acute, spreading. E. B. t. 1674.

HAB. Dry pastures, &c. common. Fl. June, July. 2

Varies in size from 3-10 inches; the leaves also vary in form; they are mostly lanceolate, though occasionally obovate, but the lobes at the base are uniformly divaricate, and the leaf more or less contracted immediately above them. The valves of the female flowers are ovate, reddish, and never granu-  
liferous. The plant has an acidity like the preceding, than which, it is much smaller in all its parts.

## 16. TRIGLOCHIN.

1. *Tr. palustre*, (*marsh Arrow-grass*,) fruit nearly linear, 3-celled. E. B. t. 366.

HAB. Salt marshes, occasionally. Exmouth. Near Torquay, Rev. J. Jervis.  
Fl. July. 2

The leaves all radical, linear, fleshy with sheathing stipules at the base; scape 6-12 inches, rounded, simple; flowers small, greenish, shortly pedunculate, on a long, lax, simple spike; anthers sessile; capsules 3, united by a common receptacle, so as to form one 3-celled fruit.

2. *Tr. maritimum*, (*sea-side Arrow-grass*,) fruit ovate, 6-celled. E. B. t. 255.

HAB. Salt marshes and on the sea coast, common. Topsham and Exminster Marshes, &c. Fl. May—August. 2

Stouter than the last, but similar in habit, it differs in the more obtuse segments of the perianth, and in the fruit; which is formed of six distinct capsules, forming an ovate fruit; and not separating from the base, and suspended by the point, as is the case ultimately with the *Tr. palustre*.

### 17. COLCHICUM.

1. *C. autumnale*, (*meadow Saffron*,) leaves plane, lanceolate, erect. E. B. t. 133.

HAB. Meadows at Torwood, near Torquay. Fl. September. 24

Root a solid bulb; flowers appear in autumn, 2 or 3 successively springing from the same bulb, with a long narrow tube sheathed at the base, pale-purple; the leaves appear the following spring.

### 18. ALISMA.

1. *A. plantago*, (*great Water Plantain*,) leaves ovate, acute; fruit depressed; capsules obtusely triangular. E. B. t. 837.

HAB. In marshy situations, frequent. Bovey Heathfield, Ilsington, Lympstone, Topsham Marshes, Broadclist, &c. Fl. July. 24

Leaves all radical, on long petioles, ribbed; scape 1-3 feet high, erect, terminating in a sort of large whorled panicle, with spreading, slightly compound branches, bracteated at their base; flowers pale-rose colour.

2. *A. ranunculoides*, (*small Water Plantain*,) leaves linear, lanceolate; fruit globose, squarrose; capsules acute. E. B. t. 326.

HAB. Preston, near Kingsteignton. Fl. August. 24

Much smaller than the last, with larger paler flowers in umbels, occasionally proliferous; but the essential difference rests in the fruit.

## VIII. OCTANDRIA.

### I. MONOGYNIA.

#### 1. EPILOBIUM.

1. *E. hirsutum*, (*great Willow-herb*,) root creeping; stem much branched; leaves semi-amplexicaul, ovate, lanceolate, hairy. E. B. t. 838.

HAB. Sides of ditches and streams, frequent. Fl. July. 24

Stem 3-4 feet high, erect, round, leafy; leaves dentato-serrate, spreading, the lower ones opposite and amplexicaul; the upper alternate, and merely sessile; the flowers large, rose-coloured, in a sort of corymb.

2. *E. parviflorus*, (*small-flowered Willow-herb*,) root fibrous; stem sub-simple, very downy; leaves sessile, lanceolate; stigma 4-cleft. E. B. t. 795.

CHLORA. OCTANDRIA. MONOGYNIA.

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HAB. Sides of ditches and streams, frequent. Ilington; bogs on Bovey Heathfield. Fl. July. 24

Stem 1-2 feet high, round, firm, very leafy; leaves slightly toothed, downy on both sides, sub-erect, the lower ones opposite, the upper alternate; the flowers small, pale-rose colour. Smaller than the last in all its parts, from which it most permanently differs in the fibrous root, the smaller flowers, and the leaves.

3. *E. palustre*, (*narrow-leaved Willow-herb*,) stem round; leaves linear-lanceolate, subdentate, sessile; stigma undivided. E. B. t. 346.

HAB. Bogs and beside streams, frequent. Bovey Heathfield, Haldon, Chudleigh, Ilington, &c. Fl. July. 24

Root fibrous; stem 6-18 inches high, sub-simple, slightly downy; flowers small, pale-rose colour, in a sort of leafy raceme. It varies in the pubescence of the stem and leaves, and in the latter being slightly dentate or entire.

4. *E. tetragonum*, (*square-stalked Willow-herb*,) stem 4-angled; leaves lanceolate, sessile, glabrous, toothed; stigma undivided. E. B. t. 1948.

HAB. In wet situations, common. Fl. July. 24

12-18 inches high, with a fibrous root and rose-colour flowers, few, and with a leaf at the base of each.

5. *E. montanum*, (*broad smooth-leaved Willow-herb*,) stem round; leaves ovate-acute, glabrous, toothed, shortly petiolate; stigma 4-cleft. E. B. t. 1177.

HAB. Hedges, common. Fl. July. 24

Root somewhat creeping; stem 6-18 inches, mostly simple; leaves sharply and irregularly toothed, pale-green, often reddish; flowers palish-purple, few, in a leafy clustered raceme.

6. *E. roseum*, (*pale smooth-leaved Willow-herb*,) stem obscurely 4-angled; leaves ovate, petiolate, toothed; stigma undivided. E. B. t. 693.

HAB. Beside the stream at Ilington village. Near Topsham. Fl. July. 24

Resembles the last, but has an entire stigma, and generally grows in moister situations.

2. CHLORA.

1. *C. perfoliata*, (*yellow Centaury*,) leaves perfoliate. E. B. t. 60.

HAB. Branscombe Cliffs, and near Starcross, Rev. J. Jervis. Braunton Burroughs, Dr. Wavell. Fl. July, August. ☉

The radical leaves ovate, stellate, and sessile; the stem leaves ovate, lanceolate, the lower ones sessile, the rest perfoliate: the stem about a foot high, dichotomous above; the flowers a fine yellow; whole plant glaucous.

## 3. VACCINIUM.

1. *V. myrtillus*, (*Whortleberry*,) stem angular; leaves ovate, serrate, deciduous; peduncles 1-flowered. E. B. t. 456.

HAB. Woods and heathy downs, common. Fl. May. ♀

A low shrubby plant from 1-2 feet high, with drooping, urceolate, flesh-colour flowers, and black glaucous berries, which are used for culinary purposes; the stamens are 8 or 10, the anthers tubular, with a pore at the top, and 2 horns.

## 4. ERICA.

1. *E. cinerea*, (*fine-leaved Heath*,) leaves ternate; anthers with 2 serrated appendages at the base; style somewhat exserted; stigma capitate. E. B. t. 1015.

HAB. Heaths and downs, common. Fl. July, August. ♀

The leaves are linear, lanceolate, and glabrous; the flowers reddish-purple, in long whorled racemes, drooping. The long crest-like appendage to the anthers sufficiently distinguishes this species. It occasionally varies with white flowers.

2. *E. tetralix*, (*cross-leaved Heath*,) leaves in fours, ciliate; flowers capitate; anthers with 2 awns at the base; style the length of the corolla. E. B. t. 1014.

HAB. Heaths and downs, common. Fl. July, August. ♀

The flowers of a deep or pale-rose colour, varying to white in a capitate drooping cluster; the cor. ovate, ventricose, 4-cleft, with a small orifice.

## 5. CALLUNA.

1. *C. vulgaris*, (*common Ling*, or *Heather*.) Hook. Fl. Scot. p. 119. E. B. t. 1013. (*Erica vulgaris*.)

HAB. Heaths and downs, common. Fl. June—August. ♀

The stem woody, tortuous, much branched; the leaves small, imbricated closely, in 4 rows, dark-green, mostly glabrous, but sometimes very hoary; flowers small, reddish, drooping, ovate, in a secund spiked raceme; calyx double, the outer of 4 small, green leaves, the inner larger and coloured.

## 6. DAPHNE.

1. *D. laureola*, (*Spurge Laurel*,) leaves lanceolate, glabrous, evergreen; racemes clustered, axillary, of about 5 flowers. E. B. t. 119.

HAB. Near Harford Bridge, Rev. W. Hinckes. Stoke Hill, near Exeter, Rev. A. Neck. Hedges at Knighton Beaumont, near Ingsdon. Fl. March, April. ♀

Stem 2-3 feet high, naked below, slightly branched, each branch bearing at the summit a tuft of smooth, shining, spreading leaves; flowers yellow green, drooping, bracteate; the stamens in 2 rows; berry ovate, black.



## 7. ACER.

1. *A. pseudo-platanus*, (*Sycamore*,) leaves 5-lobed, unequally serrate; racemes pendulous. E. B. t. 303.

HAB. Hedges, plantations, &c. hardly indigenous. Fl. May. ♀

A large tree with spreading branches; leaves large, opposite, glabrous, on long petioles, and yellowish-green flowers, in long, axillary, pendulous racemes, their pedicels villose. The wood is used chiefly in turnery work.

2. *A. campestre*, (*common Maple*,) leaves irregularly 5-lobed and cut; racemes erect. E. B. t. 304.

HAB. Woods and hedges, frequent. Fl. May, June. ♀

A small tree with rough cleft bark and spreading branches; small opposite petiolate leaves and erect branched racemes; the peduncles downy, the flowers greenish. The wood used in turnery and cabinet work.

## II. TRIGYNIA.

## 8. POLYGONUM.

- τ. Leaves ovate, flowers in a solitary terminal spike.  
(*Bistorta*.)

1. *P. bistorta*, (*Bistort*, or *Snakeweed*,) stem simple; leaves ovate, the radical ones on long-winged petioles. E. B. t. 509. Raii Syn. 147. 1. (*Bistorta major*.)

HAB. In meadows at Holwell, near Manaton; and at Widdecombe-in-the-Moor. Fl. June. ♀

Root large, tortuose, and very astringent; stem erect, 1-2 feet high; leaves entire, subflexuose, glabrous; spike 1-2 inches, solitary, erect, crowded, cylindrical, flesh-colour; flowers shortly pedicellate, with bractees at the base, trigynous; fruit triquetrous.

- ττ. Leaves lanceolate, flowers in terminal or axillary spikes.  
(*Persicaria*.)

2. *P. amphibium*, (*amphibious Persicaria*,) leaves petiolate, rough at the margin; spike terminal, ovate; flowers pentandrous; styles forked. E. B. t. 436.

α. *aquaticum*, leaves broad, glabrous, floating.

- β. *terrestre*, leaves narrower, rough with short appressed hairs.

HAB. Ponds, ditches, &c. River Exe, above the Head Wear. Clyst River, near Mary's Clyst. Fl. July, August. ♀

Root creeping; stem 1-3 feet high, clothed with tubular stipules, from which the leaves issue; leaves finely serrate; spike mostly solitary, rose-coloured; fruit ovate, compressed.

3. *P. Persicaria*, (*spotted Persicaria*,) leaves sessile; stipules fringed; spikes oblong, erect, with smooth peduncles; flowers hexandrous; styles forked. E. B. t. 756.

HAB. In moist waste places, ditches, &c. common. Fl. July, August. ☉

Stem 1-2 feet high, branched in an alternate manner, and swelling above each joint; the leaves mostly with a large blackish spot; spikes terminal and lateral, dense, obtuse, greenish or reddish, on slender smooth peduncles.

4. *P. lapathifolium*, (*pale-flowered Persicaria*,) leaves petiolate, broadly lanceolate; stipules not fringed; spikes oblong, erect, with rough peduncles; flowers hexandrous, with 2 distinct styles. E. B. t. 1382.

HAB. Road sides, dunghills, &c. occasionally. Ilington; about Chudleigh. Fl. July, August. ☉

1-2 feet high, with spreading branches, much swollen above each joint; spikes dense, mostly larger than the former species, terminal and lateral, mostly pale-green, but occasionally reddish; the whole plant paler, stouter, and more succulent than the preceding; the stem is occasionally spotted, and the leaves hoary beneath.

5. *P. Hydropiper*, (*biting Persicaria*,) stem erect; leaves lanceolate, waved, spotless; spikes lax, drooping; flowers hexandrous; styles forked. E. B. t. 969.

HAB. Wet places, common. Fl. August, September. ☉

Stem 1-3 feet; spikes lateral and terminal, slender; flowers reddish, not crowded.

rrr. Flowers axillary. (*Polygonum*.)

7. *P. ariculare*, (*Knot-grass*,) stem procumbent, herbaceous; leaves ovate-lanceolate, rough at the margin; stipules with remote nerves. E. B. t. 1252.

HAB. Fields, waste places, &c. common. Fl. April—October. ☉

Stem 6-30 inches long, branched, straggling, procumbent, with sheathing scarious stipules at intervals; leaves alternate, varying much in size, and when growing near the sea-side glaucous and fleshy; flowers 2-5, greenish or reddish, with a white edge, axillary, pedunculate; stamens 8; styles 3; fruit, large, triquetrous.

rrrr. Leaves cordate. (*Fagopyrum*.)

8. *P. fagopyrum*, *Buckwheat*, stem sub-erect, unarmed; leaves cordate, sagittate; angles of the seeds even. E. B. t. 1044.

HAB. In fields, a naturalized plant, not indigenous. Fl. July, August. ☿

Stem 12-18 inches, waved, branched; flowers in spreading panicles, terminal and lateral, pale-red.

9. *P. convolvulus*, (*climbing Buckwheat*,) stem twining, angular; leaves cordate, sagittate; segments of the perianth bluntly beaked. E. B. t. 941.

HAB. Fields and hedges, common. Fl. June, July. ☿

Stem long and twining; flowers drooping, whitish or reddish, in small lax spikes; fruit black, triquetrous.



## III. TETRAGYNIA.

## 9. ADOXA.

1. *A. moschatellina*, (*tuberous Moschatel.*) E. B. t. 453.

HAB. Shady moist hedges, &c. frequent. Chudleigh, Ashburton, Totness, Lustleigh, road side between Manaton and North Bovey; Withecombe Wood, near Exmouth; Tavistock, &c. Fl. April, May. 2

Root white, scaly, creeping; stem weak, simple, about 6-8 inches; leaves, the radical ones 2-3 on long petioles, ternate or bi-ternate, pale-green; stem leaves 2, small, simply ternate; flowers 5 in a pedunculate head, one always terminal; stamens 8-10; plant has a musky smell when the dew is on it in the morning or evening.

## IX. ENNEANDRIA.

## HEXAGYNIA.

## BUTOMUS.

1. *B. umbellatus*, (*flowering Rush.*) E. B. t. 651.

HAB. Topsham Marshes. Clyst River, by the bridge. Near Exwick, Mr. Jacob. Stoke Lea, near Street Gate, Rev. R. P. Welland. Fl. June, July. 2

Root white, tuberous, horizontal; leaves all radical, 2-3 feet long, linear, acuminate, triquetrous; scape longer than the leaves, rounded, supporting an umbel of rose-coloured flowers, on long, slender peduncles, with bractees at their base, and a triphyllous involucre; the leaves of the perianth alternately smaller; the anthers red. An elegant and beautiful plant.

## X. DECANDRIA.

## I. DIGYNIA.

## 1. CHRYSOSPLENIUM.

1. *C. oppositifolium*, (*common golden Saxifrage,*) leaves opposite. E. B. t. 490.

HAB. Wet, shady, and boggy situations, common. Fl. April, May. 2

Root creeping; stem 4-6 inches, branched occasionally near the summit; leaves crowded at the base, petiolate, crenate, subcordate; flowers in a terminal leafy corymb, yellow, mostly 4-cleft, and octandrous.

## 2. SAXIFRAGA.

1. *S. tridactylites*, (*rue-leaved Saxifrage,*) stem branched;

lower leaves mostly trifid, their segments short and linear; upper ones mostly simple, spatulate; petals a little longer than the calyx. E. B. t. 501.

HAB. Walls, roofs, and dry situations, frequent. Fl. May, June. ☉

2-4 inches high, slender, erect; flowers white, small, erect, mostly solitary, on longish peduncles; caps. inferior, urceolate; whole plant succulent, and covered with viscid glandular hairs.

### 3. SCLERANTHUS.

1. *S. annuus*, (*Knawell*,) leaves linear, subulate; segments of the perianth erect after flowering. E. B. t. 351. and 352. (*S. perennis*.)

HAB. Corn fields, &c. frequent. Fl. July. ☉

A plant with numerous spreading branched stems, 3-6 inches high, and small green flowers in axillary leafy clusters; the perianth segments are white and membranaceous at the edge, and spreading when in flower. In the *S. perennis* of E. B. the stems are shorter and prostrate, and the whole plant denser; the segments of the perianth also have a broader white margin, but there is by no means a sufficient difference to constitute a distinct species. It is occasionally a biennial plant. Raii Syn. Meth. 159. 1. and 160. 2. notices both var. with a query as to their being the same.

### 4. SAPONARIA.

1. *S. officinalis*, (*Soapwort*,) leaves ovate, lanceolate; cal. cylindrical, glabrous. E. B. t. 1060.

HAB. In the road between Kingsteignton and Sandy Gate. In a hedge at Bickington. Shaldon, near the sands. Near Wilmington, Mr. E. Foster. Fl. August, September. 2.

Stems 1-2 feet high, stout, smooth, rounded, spreading; leaves opposite, connate, glabrous, entire, ribbed; panicle terminal, with numerous large pale-rose colour flowers; makes a lather with water, whence the name.

### 5. DIANTHUS.

1. *D. armeria*, (*Deptford Pink*,) calycine scales lanceolate, downy, length of the tube; flowers clustered, fascicled. E. B. t. 317.

HAB. In the road between Ashburton and Newton, near the latter place. Near Teignmouth. Kingsteignton. Trusham. Cannontegon. Sandtown Rocks, Dr. Wavell. Fl. July, August. ☉

## II. TRIGYNIA.

### 6. SILENE.

1. *S. inflata*, (*bladder Campion*,) leaves ovate; cal. glabrous, veined, inflated; flowers panicked. Smith, Comp. p. 68. E. B. t. 164. (*Cucubalus Behen*.)

Var. *a. major*, stems erect, many-flowered; petals scarcely crowned. Raii Syn. 337. 2. (*Lychnis sylvestris*, &c.)

*β. smaller*, stems procumbent at the base, many-flowered; petals crowned. E. B. t. 957. (*S. maritima*.) Raii Syn. 337. 1. (*Lychnis maritima, repens*.) Hudson Fl. Ang. 188. (*Silene amara*.)

HAB. Fields and way-sides, common. Var. *β.* frequent along the coast. Fl. July. 24

Whole plant glaucous, (highly so by the sea-side,) varying much from situation; the flowers drooping on slender peduncles; petals large, white, more or less bifid; styles 3-5.

2. *S. Anglica*, (*English Catchfly*,) plant hirsute, viscous; flowers lateral, erect, alternate; caps. the lower ones spreading, reflexed. E. B. t. 1178.

HAB. Fields and hedges in various parts of the county. North Bovey, Lustleigh, Manaton, Ilington, Kingsteignton, Dawlish, &c. Fl. July, August. ☉

Root fibrous; stem erect, branched; leaves linear-lanceolate; flowers white, sometimes spotted, pale-red; petals emarginate; caps. ovate.

3. *S. acaulis*, (*moss Catchfly*,) stem very short; leaves linear, ciliate at the base; peduncles solitary, 1-flowered; petals slightly notched, crowned. E. B. t. 1081. Raii Syn. 341. 16. (*Lychnis Alpina minima*.) Hudson Fl. Ang. 187. (*Cucubalus acaulis*.)

HAB. Dartmoor, Hudson and Withering. Found in Devon by Mr. Gidley, according to Ray, as referred to above. We have not been fortunate enough to meet with it in the county; it grows abundantly on most of the elevated mountains of Scotland and Wales. Fl. June, July. 24

Stems 2-3 inches high, much branched and tufted; leaves patent, crowded; flowers rose-colour; caps. cylindrical.

## 7. STELLARIA

1. *S. media*, (*common Chickweed*,) stem procumbent, with a line of hairs on one side, alternately between each joint; leaves ovate; petals deeply bifid; stam. 5-10. E. B. t. 537.

HAB. Waste places, gardens, &c. everywhere. Fl. nearly through the year. ☉

Stem weak, slender, varying in length; leaves pale-green, petiolate below, sessile above; flowers small, white, on solitary axils and terminal peduncles. The alternating lines of hairs well distinguish this very common weed.

2. *S. holostea*, (*greater Stitchwort*,) stem sub-erect; leaves lanceolate, acute, finely serrulate; sepals nerveless; petals obcordate, somewhat bifid. E. B. t. 511.

HAB. Woods and hedges, common. Fl. May. 24

Root creeping; stem decumbent and very slender at the base, stouter and more quadrangular upwards; leaves opposite, sessile, very acuminate, gla-

brous, revolute at the margin; flowers large, white, on longish slender peduncles, forming a lax panicle; the petals are much broader than the next species.

3. *S. graminea*, (*lesser Stitchwort*.) stem sub-erect; leaves lanceolate, acute, entire; panicle branched, divaricate; sepals 3-nerved; petals with linear deeply bifid segments. E. B. t. 803.

HAB. Fields, hedges, woods, &c. common. FL. May. ☽

More slender than the last, from which it is readily to be distinguished by its entire leaves, large branching panicle, 3-nerved calyx, and smaller flowers.

4. *S. uliginosa*, (*bog Stitchwort*.) stem decumbent; leaves ovate, lanceolate, entire, with a callous tip; flowers in small irregular panicles; petals bifid, shorter than the calyx. E. B. t. 1074. St. Hilaire Mem. Mus. 3. (*Larbrea aquatica*.)

HAB. Bogs and wet situations, common. FL. June. ☉

The stems angular; the leaves small, veined, and glaucous; panicles few-flowered, with minute, lanceolate bractes; calyx 3-nerved; petals white and very small; differs from the rest of the genus in the petals and stamens being perigynous, and forms the genus *Larbrea* of St. Hilaire.

## 8. ADENARIUM.

1. *A. peplodes*, (*sea-side Sandwort*.) E. B. t. 189. (*Arenaria peplodes*.)

HAB. Along the sea coast, frequent. Exmouth, Dawlish, Torquay, &c. FL. July. ☽

Now huge, creeping; stems numerous, prostrate, branched; leaves ovate, fleshy, entire, shining, opposite, sessile; flowers small, white, solitary, nearly sessile in the upper divisions of the stem; capsule large and roundish, with many black seeds. The plant has a very different habit from any of the genus *Arenaria*, in which it has been occasionally placed.

## 9. ARENARIA.

### c. Without stipules.

1. *A. trinervis*, (*three-nerved Sandwort*.) leaves ovate, acute, petiolate, mostly 3-nerved; flowers solitary; cal. rough on the back, obscurely 3-ribbed. E. B. t. 1483.

HAB. In shady damp situations, common. FL. May. ☉

Weak, pubescent, branched stems, and small white flowers, on long solitary peduncles, axillary from the upper divisions of the stem; the leaves are 3-5 nerved and entire, the upper ones sessile.

2. *A. serpyllifolia*, (*thyme-leaved Sandwort*.) leaves ovate, acute, sessile, roughish; cal. hairy, having its 3 outer sepals 3-ribbed. E. B. t. 928.

HAB. Dry places, with &c. common. FL. June. ☉

Rather a rigid habit, stems numerous, spreading, branched, and pubescent;

leaves very small, and obscurely nerved; flowers small, white, on short erect peduncles, forming a small leafy panicle.

3. *A. tenuifolia*, (*fine-leaved Sandwort*,) stem branched; branches supporting panicles; leaves subulate, acute; cal. 3-nerved; petals lanceolate, much shorter than the cal. E. B. t. 219.

HAB. On a wall at the bottom of Holloway-street, Exeter, Mr. Jacob. Fl. June, July. ☉

4-6 inches high, slender, erect, glabrous, the leaves connate at the base; flowers very small, white, on solitary and very slender peduncles; cal. acuminate, 3-ribbed.

τ τ. With stipules at the base of each pair of leaves.

4. *A. rubra*, (*purple Sandwort*,) stems prostrate; leaves linear, plane, somewhat fleshy, tipped with a minute bristle; caps. as long as the cal.; seeds compressed, angular, roughish. E. B. t. 852.

HAB. Sandy and gravelly soils, frequent. Haldon. Bovey Heathfield. North Bovey. Ilington, &c. Fl. June. ☉

Stems round, glabrous, much branched and spreading; stipules 2, ovate, whitish, membranaceous, cloven, sheathing the stem at the base; flowers purplish red, numerous, on pubescent, viscid, solitary peduncles, forming very irregular panicles, deflexed after flowering; cal. hairy and ribless.

5. *A. marina*, (*sea-side purple Sandwort*,) stem prostrate; leaves semi-cylindrical, fleshy, not mucronate; caps. longer than the cal.; seeds compressed, smooth, with a broad membranaceous border. E. B. t. 958.

HAB. Exmouth Warren. Den at Teignmouth, and other similar situations on the sea-coast. Fl. June, July. ☉

Resembles the last in habit, but differs in the more fleshy and awnless leaves, the much longer capsule, and above all in the seeds.

### III. PENTAGYNIA.

#### .10. COTYLEDON.

1. *C. umbilicus*, (*wall Pennywort*,) leaves peltate, crenate; stem spiked with racemes of pendulous flowers. E. B. t. 325.

HAB. Walls, roofs, hedges, &c. common. Fl. June—August. ♀

Stem rounded, 6-12 or more inches high; leaves depressed in the centre, mostly radical; upper bractæ minute, entire; flowers cylindrical, pale yellowish green; whole plant succulent.

#### 11. SEDUM.

τ. Leaves plane.

1. *S. Telephium*, (*Orpine*,) stem erect; leaves ovate, serrate; corymbs leafy. E. B. t. 1319.



HAB. In the turnpike-road near Chudleigh Bridge. In a hedge near Cannonteign. In a lane near Crocombe Bridge, leading to Hyner. In the road between Halshanger and Ashburton. Buckland in the Moor, and at Marychurch, Rev. A. Neck. Near Brent, Mr. Anderson. Fl. July. 24

Stems numerous, simple, glabrous, spotted, 1-2 feet high; leaves large, scattered, sessile, glaucous; flowers purple, in a dense terminal corymb.

22. Leaves rounded.

2. *S. Anglicum*, (*English Stonecrop*,) leaves ovate, gibbous, fleshy, produced at the base; cyme bifid. E. B. t. 171.

HAB. In dry exposed situations, common. It prevails chiefly in the granite districts. Fl. May—August. ☉

Stem 2-4 or more inches, reddish, trailing, cylindrical, leafy, branched alternately; leaves glaucous green, with usually a reddish tinge: flowers few, white, tinged with rose colour; anthers purple.

3. *S. acre*, (*biting Stonecrop*,) leaves ovate, fleshy, gibbous, produced at the base, alternate; cyme trifid, leafy. E. B. t. 839.

HAB. Walls and roofs, common. Fl. June. 24

Grows in a tufted entangled form, with dark green, densely imbricate leaves, and bright yellow flowers. The specific difference between this and the last, does not admit of very obvious definition, but the colour of the flowers prevents any sort of difficulty.

4. *S. sexangulare*, (*insipid Stonecrop*,) leaves rounded, patent, ternate; cyme trifid, leafy. E. B. t. 1946.

HAB. Road-side just above Starcross, Rev. J. Jervis. Fl. June, July. 24

Has the habit of the last, and agrees with it in the colour of the flowers and situation, but the leaves previous to blossoming are obviously arranged in 6 rows, and instead of having an acrid biting taste, it is quite insipid.

5. *S. reflexum*, (*yellow Stonecrop*,) leaves scattered, fleshy, subulate, produced at the base; flowers subcymose. E. B. t. 695.

HAB. Walls and roofs. Chudleigh, Totness, Exeter, &c. Fl. July. 24

Stems 6-8 inches high, branched, with short barren reflexed ones at the base; leaves crowded on the barren stems, scattered on the flowering ones; flowers terminal, numerous, bright yellow, often with 6 petals and 12 stamens.

6. *S. rupestre*, (*rock Stonecrop*,) leaves subulate, erect, arranged in 5 rows, crowded, scattered at the base; flowers subcymose. E. B. t. 170.

HAB. Rocks at Babbicombe and Marychurch. In a lane leading from Holkham to the sea, between Dawlish and Teignmouth, Rev. W. Hincks. Fl. July. 24

Smaller than the last, to which it is very nearly allied; as is also *S. glaucum* and *S. Fosterianum* of E. B.



12. OXALIS.

1. *O. acetosella*, (*Wood-sorrel*,) root squamose; leaves all radical, ternate, obcordate, hairy; scape 1-flowered. E. B. t. 762.

HAB. Woods and hedges, common. Fl. March—May. 24

Scape slender, reddish, with 2 small bracteas, 2-4 inches high; flowers white, drooping, delicate, veined with purple; the plant has an agreeable acid taste.

2. *O. corniculata*, (*yellow Wood-sorrel*,) stem spreading, branched; leaves ternate, obcordate, hairy; flowers single, or subumbellate, shorter than the petioles. E. B. t. 1726.

HAB. A common weed in gardens in different parts of the county. Exeter, Topsham, Lympstone, Ashburton, Chudleigh, Dawlish, Ilington, Marychurch, &c. In the road between Exeter and Topsham, near the first turnpike-gate, and near Wear. Fl. through the summer. ☉

6-8 inches high, prostrate and rooting; flowers small, yellow, with minute bracteas at their base; caps. large, oblong; seeds with an elastic arillus.

13. AGROSTEMMA.

1. *A. githago*, (*Corn-cockle*,) hairy; cal. much longer than the cor.; petals entire, destitute of a crown. E. B. t. 741.

HAB. Corn-fields, common. Fl. June, July. ☉

2-3 feet high, rounded, branched, branches spreading; leaves opposite, linear, lanceolate; flowers large, solitary, terminal, purple; cal. ribbed, the segments very large.

14. LYCHNIS.

1. *L. flosculi*, (*Ragged-robin*,) petals 4-cleft, segments linear; caps. roundish, 1-celled. E. B. t. 573.

HAB. Moist pastures and swampy situations, common. Fl. June. 24

1-2 feet high, reddish, clammy above; leaves linear-lanceolate, opposite, connate; panicle slightly branched; flowers rose-colour; cal. and peduncles purplish-red.

2. *L. dioica*, (*red Campion*,) flowers diœcious; caps. 1-celled.

α. Flowers red. E. B. t. 1579.

β. Flowers white. E. B. t. 1580.

HAB. Hedges, woods, &c. common. Fl. May—September. 24

Stem 1-2 feet high, branched, hairy, slightly viscid at the joints; leaves ovate, lanceolate, sessile, sub-connate; cal. ribbed, in the fertile flowers ovate, ventricose, in the sterile ones cylindrical; flowers in a loose irregular branched panicle; petals crowned. The white variety is fragrant towards evening.

15. CERASTIUM.

τ. Petals not longer than the calyx.

1. *C. vulgatum*, (*broad-leaved Mouse-ear Chickweed*,)

hairy, rather viscid, sub-erect; leaves ovate, obtuse; flowers subcapitate, longer than their pedicels. E. B. t. 789.

HAB. Road-sides, pastures, &c. common. Fl. April—June. ☉

6-10 inches high, more or less branched, especially at the base; leaves pale or yellowish green; flowers white, in dense terminal heads on clusters; caps. slightly curved, twice the length of the calyx.

2. *C. viscosum*, (*narrow-leaved Mouse-ear Chickweed*,) hairy, viscid, spreading; leaves oblong, lanceolate; flowers somewhat paniced, shorter than their pedicels. E. B. t. 790.

HAB. Fields and waste situations, frequent. Fl. May—September. ♀

Resembles the last, but is larger and coarser, with spreading or procumbent stems, and narrower leaves; flowers in a sort of panicle, and mostly shorter than the pedicels when in fruit; but the form of the leaves furnishes the best specific distinction between this and the last.

3. *C. semidecandrum* (*small Mouse-ear*,) hairy, viscid, sub-erect; petals 4-5; stamens 4-5; fruit bearing pedicels elongated. Greville, Fl. Edin. p. 103. E. B. t. 1630. Curtis, Fl. Lond. (*C. pumilum*.) Fl. Brit. vol. ii. 498. (*C. tetrandrum*.) E. B. 166. (*Sagina Cerastoides*,) Raii Syn. 348. 2. (*Cerastium hirsutum minus parvo flore*.)

HAB. On old walls in the neighbourhood of Tavistock. On Exmouth sands. Dry banks at Marychurch, Rev. A. Neck. Downs about North Bovey. Fl. May, June. ☉

Plant 2-6 inches high; leaves vary much in size, and somewhat in form, from ovate to ovate-lanceolate; flowers paniced; petals more or less bifid, 5 or 4, with a corresponding number of stamens. With Dr. Greville we agree in considering the 3 individuals, *C. semidecandrum*, *C. pumilum* of Dickson and Curtis, and *C. tetrandrum*, as belonging to the same species.

τ τ. Petals longer than the calyx.

4. *C. aquaticum*, (*water Chickweed*,) leaves cordate, upper ones sessile; flowers solitary; fruit pendulous. E. B. t. 538.

HAB. Banks of streams, occasionally. Dart banks near Totness. Banks of the Exe near Exeter, Mr. Jacob. Meadows between Exeter and Woodbury, Rev. J. Jervis. Fl. June, July. ♀

Stem 1-2 feet long, branched and straggling, viscid above; leaves large, the lower ones on footstalks with short scattered hairs on the edges and margins; caps. opening with 5 valves or teeth. Very closely allied to *Stellaria nemorum*, from which it differs chiefly in the number of styles.

## 16. SPERGULA.

1. *S. arvensis*, (*Corn Spurrey*,) leaves whorled, with minute membranaceous stipules at the base; fruit stalk deflexed; seeds margined. Hooker Fl. Scot. p. 144. E. B. t. 1535. also 1536. (*S. pentandra*.)

HAB. Tillage fields, frequent. Fl. July, August. ☉

Stems 6-12 inches, swelling at the joints; leaves linear, rounded, glabrous, or slightly pubescent, of 2 bundles from each joint, spreading in a whorled manner; panicle spreading, branched; branches divaricate; flowers numerous; petals ovate, white, rather longer than the calyx; stamens often 5; caps. nearly twice as long as the cal. ; seeds roundish, dotted with raised points, varying extremely in the breadth of the margin.

2. *S. nodosa*, (*knotted Spurrey*,) leaves opposite, subulate, glabrous, connate, the upper ones clustered in the axils with young leaves; petals much longer than the cal. E. B. t. 694.

HAB. In wet, sandy, or gravelly situations, frequent. High Tor Rocks. Fl. July, August. 24

3-6 inches high, slightly tufted, spreading, sub-erect, very slender; leaves small and numerous; flowers white, large, few, and terminal; cal. nerveless; petals obovate and obtuse.

3. *S. subulata*, (*awl-shaped Spurrey*,) leaves opposite, subulate, awned; peduncles solitary, very long; petals and caps. as long as the cal. E. B. t. 1082. Hudson Fl. Ang. 203. (*S. laricina*.)

HAB. Roborough Down; Haldon, &c.; rocks by New Bridge, on the Dart; Blacket Tor. Fl. July, August. 24

2-3 inches high, branched and decumbent at the base, each branch terminating in a flower-stalk of about an inch long, with a small white flower, erect when expanded, but usually drooping before and after. The plant has frequently glandular hairs, but this is not a constant character.

## XI. DODECANDRIA.

### I. MONOGYNIA.

#### 1. LYTHRUM.

1. *L. salicaria*, (*purple Loosetrife*,) leaves opposite, cordato-lanceolate; flowers spiked; stamens 12. E. B. t. 1061.

HAB. Banks of streams, and in wet marshy situations, common. Fl. July, August. 24

Stems 2-4 feet high, erect, quadrangular; spikes very long, with whorls of purple flowers; cal. tubular, striate, with alternate large and small teeth; stamens 6 short and 6 long.

### II. DIGYNIA.

#### 2. AGRIMONIA.

1. *A. eupatoria*, (*Agrimony*,) cauline leaves interruptedly pinnate, terminal leaflet on a petiole; fruit hispid. E. B. t. 1335.

HAB. Hedges and waste places, common. Fl. June, July. ♀

Stem 1-2 feet high, hairy, subangular; leaflets serrate; flowers in a long, narrow, simple or branched spike, subsessile, yellow; cal. furrowed; fruit rough, with hooked bristles.

### 3. RESEDA.

1. *R. luteola*, (*Dyer's-weed*,) leaves lanceolate, entire, plane; cal. 4-cleft. E. B. t. 320.

HAB. Waste places, frequent. About Topsham, Teignbridge, Chudleigh Rocks, &c. Fl. July, August. ☉

Stem 2-3 feet high, erect, taper, subangular, and branched; leaves alternate and glabrous; flowers yellowish, very numerous, on long narrow spikes; stam. numerous, pendent; petals 3, linear, the uppermost always 3-lobed; nectary, large, greenish, crenate at the base of the superior petal; caps. open at the top, even before ripe; used in dying yellow.

### 4. EUPHORBIA.

1. *E. peplis*, (*purple Spurge*,) stems trailing, dichotomous; leaves semi-cordate, entire; flowers solitary, axillary. E. B. t. 2002.

HAB. Along the sea coast, rare. Exmouth Sands, Withering. Sands between Paignton and Torquay, Rev. J. Jervis. Northam Burroughs, Mr. Yonge. Fl. July, August. ☉

Plant red or purplish, forked immediately from the root; branches of irregular lengths; leaves petioled and rather fleshy; stipules many, bristle-shaped.

2. *E. peplus*, (*petty Spurge*,) leaves obovate, entire; umbel mostly of 3 primary rays; involucella heart-ovate; nectaries crescent-shaped, with 2 horns. E. B. t. 959.

HAB. Fields, gardens, and waste places, frequent. Fl. July, August. ☉

8-10 inches high, branched; leaves alternate, shortly petiolate; the milky juice very acrid.

3. *E. exigua*, (*dwarf Spurge*,) leaves linear, lanceolate, entire; umbel mostly of 3 primary rays; involucella lanceolate, entire. E. B. t. 1336.

HAB. Fields and waste places, common. Fl. July, August. ☉

Stem 4-6 inches high, erect, and nearly simple; leaves erect, sessile; umbel small, varying with from 2-5 primary rays; nectaries 4, roundish, with 2 greenish horns; caps. glabrous.

4. *E. Portlandica*, (*Portland Spurge*,) leaves linear, obovate, acute, glabrous, patent; umbel mostly of 5 primary rays; involucellas concave, subcordate. E. B. t. 441.

HAB. Along the sea coast. Teignmouth. Torquay. Brixham. Exmouth Warren. Branton Burroughs, Mr. Yonge. Fl. August. ♀

Root branched; stem 8-12 inches high, shrub-like, reddish, glaucous; nectaries 4, yellow, lunate; caps. rough at the angles.

5. *E. paratia*, (*sea-side Spurge*,) leaves concave and imbricate upwards; umbel mostly of 5 primary bifid rays; involucellas heart-kidney shaped. E. B. t. 195.

HAB. Along the sea coast, frequent. Exmouth Sands. Dawlish, Torquay, &c. Fl. August, September. 2

About a foot high; light-bluish grey, very smooth; leaves fleshy, the lower sitting, the upper half embracing the stem, gradually larger upwards and thickly tiled.

6. *E. helioscopia*, (*sun Spurge*,) leaves wedge-shaped, serrate; umbel mostly of 5 primary forked rays; involucellas obovate, serrate. E. B. t. 885.

HAB. Fields, gardens, &c. common. Fl. July, August. ☉

Root fusiform; stem often branched at the base; involucre and involucella very like the leaves; flowers yellow; caps. smooth.

7. *E. amygdaloides*, (*wood Spurge*,) leaves lanceolate, obtuse, hairy; umbel of many primary forked rays; involucellas perfoliate; caps. glabrous. E. B. t. 256.

HAB. Woods and hedges, common. Fl. March, April. 2

Stem simple, reddish, hairy, naked below; leaves entire; nectaries yellowish, lunate, acuminate.

### III. DODECAGYNIA.

#### 5. SEMPERVIVUM.

1. *S. tectorum*, (*Houseleek*,) leaves fleshy, ciliate; offsets spreading. E. B. t. 1320. Hooker, Fl. Scot. p. 149.

HAB. Roofs of houses and old walls, occasionally. Fl. July. 2

Propagated by runners, which terminate in tufts of densely imbricated, fleshy leaves; the flowering shaft 8 or 10 inches high, stout, hairy, and terminating in a corymb of 2 or 3 racemose branches; flowers pale-red, subsessile; stamens 24: 12 perfect, inserted 1 at the base of each petal; 12 small and abortive, alternating with the petals. Dr. Hooker, as quoted above, may be referred to for a valuable description of the internal structure of this plant.

## XII. ICOSANDRIA.

### I. MONOGYNIA.

#### 1. PRUNUS.

1. *P. cerasus*, (*wild Cherry*,) leaves ovato-lanceolate; flowers in sub-sessile umbels. E. B. t. 706.

HAB. Woods about Chudleigh and Ilington. Hedges at North Bovey. Cockington Wood, Rev. A. Neck. Fl. April. ♀

A large tree, with smooth cinereous bark and straight polished branches; leaves varying in form, unequally serrate, glabrous above; flowers white, large, and rather drooping. Origin of the *Garden Cherry*.

2. *Pr. domestica*, (*wild Plum*,) branches unarmed; leaves ovate-lanceolate; peduncles solitary or in pairs. E. B. t. 1783.

HAB. Withecombe Wood, near Exmouth, Rev. J. Jervis. This is scarcely an indigenous species. Fl. April, May. ♀

A middle-size tree without spines; leaves on short petioles, serrate; flowers white, largish, on short peduncles; fruit roundish or sub-ovate, blue-black, large.

3. *Pr. insititia*, (*Bullace*,) branches ending in a spine; leaves ovate-lanceolate, pubescent beneath; peduncles mostly in pairs. E. B. t. 841.

HAB. Hedges, occasionally. Marishes near Topsham. About Lymptone. Near Christowe. Fl. April. ♀

A small bushy tree with serrate leaves; white flowers, mostly in pairs, but sometimes solitary; black globular fruit, with a blue bloom and very austere taste. A white var. occurs occasionally.

4. *Pr. spinosa*, (*black Thorn*, or *Sloe*,) branches very spinose; leaves elliptico-lanceolate; peduncles mostly solitary. E. B. t. 842.

HAB. Hedges, common. Fl. March, April. ♀

A bushy rigid shrub, with crooked and very spinose branches, and a smooth blackish bark, smaller in all its parts than the last, the branches more crooked and spinose. In the former the leaves are considerably advanced before the blossoms appear; in this, the blossoms are generally gone before the leaves appear; the fruit small, black with blue bloom, globular, very austere.

## II. PENTAGYNIA.

### 2. CRATÆGUS.

1. *C. oxycantha*, (*Hawthorn*,) branches spinose; leaves 3 or 5-lobed, serrate, glabrous; flowers corymbose; styles 1-2. Lindley in Linn. Trans. vol. xiii. p. 88. Fl. Brit. p. 529. and E. B. t. 2504. (*Mespilus oxycantha*.)

HAB. Hedges, woods, &c. common. Fl. May, June. ♀

A small bushy tree, with smooth bark and rigid spinose branches; leaves petiolate, shining, dark-green, the lobes unequally cut and serrate; flowers corymbose, white, or tinged with red, mostly scented; fruit roundish or oval, red or yellowish. An excellent fence, bearing clipping to any extent. *C. monogyna* a var. of this. *Glastonbury Thorn* another var.



## 3. MESPILUS.

1. *M. Germanica*, (*Medlar-tree*,) unarmed; leaves lanceolate; flowers solitary, sessile, terminal. E. B. t. 1523.

HAB. At Leawood, the seat of C. P. Hamlyn, Esq. in the parish of Bridestowe. It is very doubtful how far this is an indigenous species. The hab. here given is a very exposed hedge, parting a furze brake; there are several plants in the hedge; it is liable to no other suspicion than that the seeds may have been originally conveyed there by birds. Herb. in Dev. and Ex. Institution. Fl. May. ♀

The leaves serrulate at the end; flowers large, white; fruit reddish-brown.

## 4. PYRUS.

1. *P. communis*, (*Pear-tree*,) leaves simple, serrate; peduncles corymbose. E. B. t. 1784.

HAB. Below Iceland Point, near Exmouth, Rev. J. Jervis. Near Warborough, Marychurch, Rev. A. Neck. Fl. May. ♀

Flowers white; fruit produced at the base. Perry made from the expressed juice.

2. *P. malus*, (*Crab-apple*,) leaves simple, serrate; flowers in a simple sessile umbel. E. B. t. 179.

HAB. Woods and hedges, occasionally. Fl. May. ♀

A tree with spreading knobby branches. Origin of all the numerous orchard varieties; flowers large, white, tinged with rose-colour outside; fruit austere,—expressed juice, verjuice.

3. *P. torminalis*, (*wild Service-tree*,) leaves simple, subcordate, serrate, 7-lobed, lower lobes divaricate. E. B. t. 298. With. Bot. Arr. 458. (*Cratægus*.)

HAB. Hedges and woods at Ilington. Holne Chase, Rev. A. Neck. Fl. April, May. ♀

A shrub with numerous white flowers and small reddish-brown fruit.

4. *P. aucuparia*, (*mountain Ash*,) leaves pinnated, glabrous; flowers corymbose; styles 3-4. E. B. t. 337. With. Bot. Arr. 460. (*Sorbus*.)

HAB. Woods about Moreton, Lustleigh, Ilington, &c. common. On the loftiest tors of Dartmoor. Fl. May. ♀

A small elegant tree, with elliptico-lanceolate serrated leaflets, numerous small white flowers, and red fruit about the size of a pea. The *Roan Tree* of the North.

5. *P. domestica*, (*true Service-tree*,) leaves pinnate; leaflets villose beneath; flowers paniculate. E. B. t. 350. With. Bot. Arr. 460. (*Sorbus*.) Raii Syn. Meth. 452.

HAB. Cliffs near Torquay. Hazle Rocks, near Ashburton, abundant, Polwhele. Fl. May. ♀

Flowers white; fruit brownish, size of a crab.

6. *P. aria*, (*white Beam*,) leaves ovate, cut, and serrate, white and downy beneath; flowers corymbose. E. B. t. 1858. With. Bot. Arr. 458. (*Cratagus*.)

HAB. Woods and hedges at Goodleigh, near Barnstaple, Dr. Wavell. Rocks at Babbicombe and near Torquay, Rev. A. Neck. Fl. May. ½

A small tree, with a remarkable white mealiness on the under side of the leaves, peduncles, and calyx; fruit scarlet.

### 5. SPIRÆA.

1. *S. filipendula*, (*common Dropwort*,) leaves interruptedly pinnate; leaflets uniform, cut; flowers cymose; styles many. E. B. t. 284.

HAB. Cliffs about Torbay. Fl. July. ¾

Root tuberous; stem a foot high, branched above, terminating in an erect cymose panicle; flowers yellowish-white, tipped with pinkish; styles 8-12.

2. *S. ulmaria*, (*Meadow-sweet*,) leaves interruptedly pinnate, serrate, pubescent beneath; terminal leaflet largest and lobed; flowers in compound cymes. E. B. t. 960.

HAB. Meadows, banks of streams, &c. common. Fl. June, July. ¾

Stem 3-4 feet high, branched, furrowed; flowers yellowish-white, numerous, sweet-scented in a sort of proliferous cyme; styles 6-8.

## III. POLYGYNIA.

### 6. ROSA.

#### τ. PIMPINELLIFOLIÆ.

1. *R. spinosissima*, (*Burnet Rose*,) arms unequal; leaflets plane, without pubescence, simply serrate. E. B. t. 187. Lindl. Monog. p. 50.

HAB. Sentry Field at Moreton. Sourton Common, near Oakhampton. Dungeon Cliff, Marychurch, Rev. A. Neck. Fl. June. ½

A dwarf, compact, dark (sometimes reddish) green bush, with creeping roots, short, stiff, and much divided branches, beset with very dense unequal prickles and setæ; the leaves set close together; petioles setigerous and prickly; leaflets about 7, bright-green, flat, sub-orbicular; the flowers solitary, bluish-coloured, without bractæ; sepals short and entire; styles villose and distinct.

#### ττ. VILLOSÆ.

2. *R. tomentosa*, (*downy-leaved Rose*,) leaflets ovate, somewhat acute; fruit hispid or naked. Lindley Monog. p. 77.

α. *vera*, shoots curved; sepals compound. E. B. t. 990. (*R. tomentosa*,) and 1896, (*R. scabriuscula*.)

β. *mollis*, shoots quite straight; sepals sub-simple. E. B. t. 2459. (*R. mollis*.)

HAB. Hedges at North Bovey, near the village; and at Chagford. Fl. June, July. ♀

- 7 or 8 feet high, spreading, very grey; branches sub-glaucous; petioles slightly prickly and glandular; leaflets hoary with down, obtuse, doubly serrate, soft and rugose, paler beneath, and sometimes slightly glandular, when bruised having a turpentine smell; flowers reddish, with short stalks; peduncles hispid, with unequal setae and glands; sepals compound, spreading, always hispid at the back; fruit somewhat purple, usually hispid, crowned by the converging sepals, but these sometimes fall off immediately after the fruit is ripe.

*R. canina* and *R. tomentosa* border very closely on each other, and the only satisfactory marks of difference are the straight prickles, diverging serratures, hispid fruit, sepals, peduncle, and the soft leaves of the latter, as contrasted with the hooked prickles, converging serratures, smooth calyx, deciduous sepals, and naked or harshly pubescent leaves of the former.

#### III. RUBIGINOSÆ.

3. *R. rubiginosa*, (*Sweet Brier*,) prickles hooked; leaflets rugose, opaque; calyces and peduncles hispid. Lindley Monog. p. 86.

α. *vulgaris*, prickles strong, very unequal; styles hairy. E. B. t. 991. (*R. rubiginosa*.)

β. *inodora*, prickles much hooked, nearly equal; leaves less glandular; sepals deciduous before maturity. E. B. t. 2579. (*R. dumetorum*.)

HAB. Woods and hedges, occasionally. α. Bickington, near Ashburton. β. Hedges near Lustleigh, Dunsford, and Crediton. Fl. June. ♀

- 3 or 4 feet high, much branched, with a more compact habit than *R. canina*; branches bright-green, flexuose, armed with numerous hooked, scattered, strong prickles on the root; shoots sometimes very small, and tipped with a gland; leaves dull rugose green, very sweet-scented, covered beneath with numerous brown glands; petioles with a few strong unequal prickles; flowers 1-3 together, pale-bluish; peduncles and calyx hispid, with weak setae; sepals reflexed, pinnate; styles hoary, distinct; fruit orange-red, crowned by the ascending sepals. The usual appearance of this plant is a compact much-branched bush, with pale-red flowers in threes, bristly scarlet fruit, and bright-green, but not shining leaves, which are very fragrant. All these characters, however, are liable to considerable variation, and have been the foundation of a multitude of supposed species.

#### IV. CANINÆ.

4. *R. canina*, (*common Dog-rose*,) leaflets rigid, ovate; germens 20-30. Lind. Monog. p. 98. E. B. t. 992.

HAB. Woods and hedges, common. Fl. July. ♀

- A straggling brier, 6-7 feet high; branches bright-green, on the sunny side reddish brown; leaves distant, quite free from pubescence; petiole armed with a few prickles; leaflets 5-7, ovate or oblong, acute or rounded, sessile or sub-sessile, flat or concave, even or rugose, coarsely or finely, simply or doubly serrated; serratures always acute, and without glands; cymes 1 or many-flowered; peduncles and calyx smooth; sepals spreading, sharp

pointed, deciduous; styles nearly smooth; fruit scarlet, shining; pericarp large, uneven.

#### TTTT. SYSTYLE.

5. *R. arvensis*, (*white field-Rose*,) shoots flagelliform; prickles unequal, falcate; leaflets glaucous beneath. Lind. Monog. p. 112. E. B. t. 188.

HAB. Woods and hedges, common. Fl. June, July.  $\frac{1}{2}$

Branches procumbent, slender, dull glaucous purple; leaves distant, dark-green; petioles pubescent, with scattered glands and dorsal hooked prickles; leaflets 5-7, flat, simply serrated, very glaucous beneath; flowers solitary on the branchlets, numerous on the root shoots, white, with a yellow base, and a slight scent; peduncles rough, with glands, and a very few setæ; stamens persistent; styles united into a long smooth column; fruit scarlet.

\* \* Note. Genus ROSA. Calyx, tube urceolate, fleshy, including many hairy achenia; recept. villose.

#### PIMPINELLIFOLLE.

Setigerous, with subcuneiform crowded arms, or unarmed, very rarely with bracteas; calycine segments or sepals connivent, persistent; disk almost none.

#### VILLOSÆ.

Root shoots straight; prickles nearly straight; leaflets with diverging serratures; calycine segments or sepals connivent, persistent; disk incrassated, closing the mouth.

#### RUBIGINOSÆ.

Root shoots curved; prickles unequal, sometimes like bristles; leaflets glandulose, with divergent serratures; calycine segments or sepals persistent; disk incrassated.

#### CANINÆ.

Larger shoots curved; prickles equal, hooked; leaflets not glandulose, the serratures connivent; calycine segments or sepals deciduous; disk incrassated, closing the mouth; larger shoots curved.

#### SYSTYLE.

Styles cohering in a lengthened column; stipules adnate.

The terms used by Mr. Lindley in illustrating this genus are as follow:—

Arms, setæ and prickles indiscriminately mixed.

Setæ (or bristles) little straight aculei, tipped with a gland; they are known from real glands by their rigidity and tendency to pass into prickles; they exist in all species on the root-shoots, where they are soon changed into aculei by losing the gland; in general they are deciduous after the first year; on their presence on the branches depend some of the most natural divisions. *Spinosissima* is divided from *canina* by that character among many others; but though an organ of so much value on the branches, it is of all others most variable on the peduncles and fruit. *R. rubiginosa* and *R. tomentosa* produce setigerous and naked fruit, often on the same branch. By the form of the prickles, (aculei) *canina* are tolerably distinguished from *villosa*, and their inequality divides *rubiginosa* from the former. Their presence or absence on the petioles is much too variable to be employed.

Glands are distinguished from setæ by their scent, and are attached, for the

most part, to the under surface of the leaves ; they are used to divide *rubiginosa* from *canina*.

Pubescence on the branches, peduncles, or tube of the calyx, is the only invariable character in roses ; but pubescence on the leaves is of no consequence whatever. *R. canina* has occasionally hairy and smooth leaves on the same plant ; in that species, as well as in *tomentosa*, there is every gradation from perfect nudity to the most dense pubescence. Distinctions drawn from the shape of the calyx tube, or from the fruit, can in no instance be employed ; all varieties of form may be found in *canina* and *tomentosa*. The shape of the sepals may sometimes be considered, but rarely their degree of division : their persistence, however, must always be attended to.

All the species are included between the 19th and 70th degrees, north latitude.

We follow Mr. Lindley's excellent work "*Rosarum Monographia*;" from it the characters of the divisions, the terms employed, and their relative importance, are taken.

## 7. RUBUS.

1. *R. idaeus*, (*Raspberry*,) stem nearly erect, prickly ; leaves pinnate ; leaflets 3-5, whitish, and very downy beneath ; petioles channelled. E. B. t. 2442.

HAB. Blackstone Rock, and on the summit of Hingsdon Down near Moreton. Woods at Lidford Fall. Sticklepath near Oakhampton. Hedges near Manaton and North Bovey. Woods at Widdcombe in the Moor, Rev. A. Neck. Common in woods in the North of Devon, Dr. Wavell. Fl. May, June. ♀

Stems numerous, 3-5 feet high, rounded ; leaves cut and serrate ; flowers white, paniced, and drooping ; petals small ; fruit in a wild state, scarlet.

2. *R. corylifolius*, (*hazel-leaved Bramble*,) Stems diffuse, rounded, with scattered, nearly straight prickles ; leaves pinnate ; leaflets 3-5, hairy beneath. E. B. t. 827. Anderson in Linn. Trans. vol. xi. p. 219.

HAB. Hedges and woods, common. Fl. July. ♀

Stems very long, curved and trailing, rounded, nearly angular ; leaves irregularly cut and serrate ; flowers numerous, paniced, mostly tinged with pink ; fruit blackish purple, roundish, of many rather small grains.

3. *R. fruticosus*, (*common Bramble*,) stems diffuse, angular, with hooked prickles on the angles ; leaves pinnate ; leaflets mostly 5, petiolate, hoary, with pubescence beneath. E. B. t. 715. Anderson in Linn. Trans. vol. xi. p. 221.

HAB. Woods and hedges, common. Fl. July. ♀

Stems like the preceding, but stouter and obtusely angular, with strong hooked prickles on the angles only, which is the only steady mark of distinction between this and the last, though their general appearance is so dissimilar.

## 8. FRAGARIA.

1. *F. vesca*, (*wood Strawberry*,) plant stoloniferous ; pedicels with appressed sericeous hairs. E. B. t. 1524.

HAB. Woods and hedges, common. Fl. April—August. ♀

With ternate serrated leaves, which are silky beneath ; fruit edible.



## 9. POTENTILLA.

1. *P. anserina*, (*silver Weed*,) stem creeping; leaves interruptedly pinnate, deeply serrate, silky; peduncles axillary, 1-flowered. E. B. t. 861.

HAB. Road-sides, moist banks, &c. frequent. Fl. May, June. 24  
Varies much in the degree of silkiness; flowers large, yellow.

2. *P. verna*, (*spring Cinquefoil*,) stem decumbent; leaves digitate, those of the root in sevens or fives; leaflets obovate, serrate, green on both sides, hairy beneath; petals obcordate, longer than the calyx. E. B. t. 37.

HAB. Rora and Pen Woods, near Ilslington, frequent. Fl. May. 24  
A small woody plant, 4-5 inches long, with obtuse leaflets and yellow flowers, 2 or 3 together, on long footstalks, at the end of weak leafy branches.

3. *P. reptans*, (*common Cinquefoil*,) stem sarmentose; leaves quinate; leaflets obovate, wedge-shaped, serrate; peduncles axillary, 1-flowered, longer than the leaves. E. B. t. 862.

HAB. Woods, hedges, and dry banks, common. Fl. June—August. 24  
Stems reddish, rooting at the joints, each joint with a pair of stipules; the calyx segments all of equal length, but the exterior ones narrower than the rest; petals yellow, the same length as the calyx.

4. *P. nemoralis*, (*trailing Tormantil*,) stem prostrate; leaves ternate, petioled; leaflets obovate, wedge-shaped, deeply toothed; petals mostly 4, nearly twice the length of the calyx. Niessler Potentillæ, 65. E. B. t. 864. (*Tormentilla reptans*.)

HAB. Fields and waste places, common. Fl. June, July. 24  
Stems varying in length, not rooting. It has frequently 5 petals and 10 calycine segments, the number frequently varying in flowers of the same plant; and as the only generic difference between this genus and *Tormentilla*, is made to depend on the number of cal. segments and petals, we have thought it obviously the best plan (following many of the Continental botanists) to merge the last named genus in *Potentilla*, especially as the plants have precisely the same natural habit.

5. *P. officinalis*, (*shop Cinquefoil*,) stem sub-erect, dichotomous; leaves ternate, all sessile; leaflets lanceolate, cut, serrate. E. B. t. 863. (*Tormentilla officinalis*.)

HAB. Heaths and dry pastures, frequent. Fl. June, July. 24  
Stem weak, 6 to 8 inches high; peduncles axillary and terminal; flowers small yellow, drooping before expansion; petals mostly 4, occasionally 3-5, or many.

6. *P. fragaria* (*barren Strawberry*,) stems procumbent; leaves ternate; leaflets obovate, deeply serrate, silky; petals the same length as the calyx. Poirer Encyc. 5. 599. Hook. Fl. Scot. 164. E. B. t. 1785. (*Fragaria sterilis*.)



HAB. Dry banks and hedges, frequent. Fl. March, April. 2  
Stem diffused; peduncles terminal; flowers white; seeds rugose.

## 10. GEUM.

1. *G. urbanum*, (*herb Bennet*,) root leaves lyrate, pinnate; stem leaves ternate; flowers erect; awns naked. E. B. t. 1400.

HAB. Woods and hedges, frequent, Fl. May—August. 2

Stem erect, 1-2 feet high, branched above; leaves variable; leaflets cut, serrate, hairy; flowers small, yellow, terminal; calyx and petals patent.

2. *G. rivale*, (*water-Avens*,) root leaves interruptedly pinnate, lyrate; stem leaves ternate; flowers drooping; awns feathered. E. B. t. 106.

HAB. Woods about Lidford Fall, abundant. Woods about Meavy, Rev. J. S. Tozer. Fl. June, July. 2

Shorter, stouter, and less branched than the former; the flowers larger, with erect calyx and petals; the awns are hooked in both species. *G. rivale*  $\beta$  of Fl. Brit. t. 555, is a Scotch var. intermediate between the two species, and supposed to be a hybrid.

## XIII. POLYANDRIA.

## I. MONOGYNIA.

## 1. CHELIDONIUM.

1. *Ch. majus*, (*Celandine*.) E. B. t. 1581.

HAB. Hedges and waste places, frequent. Fl. May, June. 2

Stem about 2 feet high, branched, rounded, brittle, filled with a yellow acrid juice; leaves pinnated, with ovate, lobed, decumbent leaflets; flowers yellow, on long stalked umbels; pod long, and rather turgid.

## 2. GLAUCIUM.

1. *G. luteum*, (*yellow horned Poppy*,) stem glabrous; cauline leaves amplexicaul, sinuated; peduncles 1-flowered. E. B. t. 8.

HAB. Frequent along the coast. Exmouth. Teignmouth. Paignton Sands. Braunton Burroughs, Dr. Wavell. Fl. July, August. ☉

1-2 feet high, glaucous, branched, spreading; leaves scabrous, lower ones pinnatifid, upper variously lobed; flowers large, bright yellow; pods very long and bent.

## 3. PAPAVER.

$\tau$ . Capsules hispid.

1. *P. hybridum*, (*mongrel Poppy*,) stem leafy, many flowered; caps. nearly globular, torose. E. B. t. 43.

HAB. In a field near Dawlish, Mr. Jacob. Staddon Heights near Plymouth, Rev. Mr. Tozer. Fl. July. ☉

The stem slender, branched, hispid; branches naked, 1-flowered; leaves pinnatifid, segments linear, the terminating one 3-cleft; petals scarlet, with a violet base; stigma 6-8 rayed.

*Papaver somniferum* is mentioned as growing on cliffs between Sidmouth and Branscombe by the Rev. Mr. Tozer.

2. *P. argemone*, (*long rough-headed Poppy*,) stem leafy, many flowered; caps. clavate. E. B. t. 643.

β. *maritimum*, stem 1-flowered. With. Bot. Arr. 186. (*Papaver maritimum*.)

HAB. Corn fields, occasionally. Fields at North Bovey and Ilsington. Mount Pleasant above the Exmouth Warren. Fields by the Exe near Exeter, Mr. Jacob. Fl. June, July. ☉

Whole plant hairy, 1-2 feet high, generally much branched above; leaves pinnate or bipinnate, cut, segments narrow; lower leaves on long foot-stalks; flowers small, pale-scarlet; stigma 4-5 rayed.

τ τ. Capsules glabrous.

3. *P. dubium*, (*long smooth-headed Poppy*,) stem many flowered, hairy, bristles of the peduncles appressed; leaves pinnatifid; caps. oblong. E. B. t. 644.

HAB. Corn fields, frequent, but less common than the next species. Fl. June, July. ☉

Stem 1-2 feet high, with spreading hairs; petals broad, pale-scarlet.

4. *P. rhæas*, (*common Poppy*,) stem many flowered, hairy; bristles of the peduncles spreading; leaves pinnatifid; caps. sub-globose. E. B. t. 645.

HAB. Corn fields, hedges, &c. common. Fl. June, July. ☉

Distinguished from the last by the short capsule and spreading hairs on the peduncles. The petals are broad, and deep-scarlet.

5. *P. cambricum*, (*yellow Poppy*,) stem many-flowered, nearly glabrous; leaves pinnate; leaflets petiolate, ovate, lanceolate, cut; caps. oblong. E. B. t. 66.

HAB. Woods around Lidford Fall, abundant. Woods at Endsleigh and Dunterton. Near Linton, Mr. Jacob.

About a foot high; leaves glaucous beneath; flowers yellow; stigma small, on a longish style.

#### 4. NYMPHÆA.

1. *N. alba*, (*white Water-Lily*,) leaves cordate; stigma of 16 ascending rays. E. B. t. 160.

HAB. Marshes and canals at Powderham, hardly wild. Fl. June, July. ♀

Plant aquatic; leaf lobes imbricate, roundish; flowers white, floating; petals numerous, outer ones largest, diminishing gradually into stamens; fruit soft and fleshy, decays without opening; seeds small and very numerous; it extends itself by long runners, which form a root at the end, and send up leaf stalks. It may be propagated by transplanting the bulbous roots in winter.

5. NUPHAR.

1. *N. lutea*, (*yellow Water Lily*,) leaves cordate, their lobes approximate; sepals 5; stigma expanded, with 14-20 rays. Hort. Kew. Ed. 2. Hook. Fl. Scot. p. 169. E. B. t. 159. (*Nymphaea lutea*.)

HAB. In the Clyst River near Bishop's Clyst Bridge, abundant. Fl. July. 2

Plant aquatic; calyx large, coloured; petals small, numerous, obtuse, fleshy, deep orange-colour; fruit large, flagon-shaped, glabrous, fleshy; seeds large, many; smells like brandy.

6. TILIA.

1. *T. Europaea*, (*Lime-tree*,) leaves cordate, acuminate, serrate; nectary none; pericarp ribbed, woody. E. B. t. 610.

HAB. In walks, avenues, &c. in various parts of the county. Fl. July. 1

A handsome tree, with small, greenish, fragrant flowers, on a stalked cyme, springing from the centre of a foliaceous lanceolate bractea, which falls off with the fruited cymes; fruit generally 1-celled, 1-seeded; thick, and woody; differs in this last respect chiefly from *T. parvifolia* of Smith, Fl. Brit. B. p. 571. this latter is *T. microphylla* of Decandolle, Fl. Gall. 4508. One or two other varieties have been noticed, of little consequence.

7. CISTUS.

1. *C. helianthemum*, (*dwarf Cistus*,) shrubby, procumbent; leaves ovate, oblong, white and pubescent beneath; their margins slightly revolute; stipules lanceolate; petals entire. E. B. t. 1321, and also E. B. t. 2208. (*C. tomentosus*.)

HAB. Branscombe Cliffs near Seaton, Rev. J. Jervis and Mr. Jacob. Near Denbury, Rev. A. Neck. Fl. July, August. 1

Varies in the width and greater or less revolution of the margin of the leaves; the pubescence is branched or stellate; flowers yellow and showy, in loose terminal racemes: it varies occasionally, with white and rose colour flowers. *Helianthemum vulgare*, Pers. Syn. 2. p. 79.

2. *C. polifolius*, (*white mountain Cistus*,) shrubby, procumbent; leaves oblong, revolute, pubescent beneath; stipules lanceolate; petals crenulated. E. B.

HAB. Cliffs at Babbicombe and Torquay. Fl. June, July. 1

Stems numerous; flowering branches ascending, white, pubescent; flowers white, the pubescence stellate.

II. PENTAGYNIA.

8. AQUILEGIA.

1. *A. vulgaris*, (*Columbine*,) stem leafy, many flowered; leaves sub-glabrous; spur of the petals incurved; styles as long as the stamens; caps. villous. E. B. t. 297.

HAB. Woods, frequent. Chudleigh. Basington. Lymptone. Holne

Chace and Spitchwick Woods, abundant. Park Hill near Torquay, Rev. A. Neck. Rare in the North of Devon, Dr. Wavell. Fl. June, July. ♀

2-3 feet high, with bi-ternate leaves; leaflets 3-5 lobed, the radical ones on long petioles, the cauline ones sessile; flowers large, paniced, drooping, and mostly purple.

### III. POLYGYNIA.

#### 9. ANEMONE.

1. *A. nemorosa*, (*wood Anemone*,) stem 1-flowered; leaves ternate, lobed and cut; involucre similar, petiolate; caps. awnless. E. B. t. 355.

HAB. Woods, shady banks and borders of streams, frequent. Fl. April—June. ♀

Stem simple, 6-12 inches high; flowers large, white, tinged on the outside with purple.

Note.—We have habitats of *A. apennina* and *A. ranunculoides*, but as we entertain doubts how far they are to be considered as indigenous plants, though they are admitted into the British Flora, we have not thought proper to insert them.

#### 10. CLEMATIS.

1. *C. vitalba*, (*Traveller's Joy*,) stem climbing; leaves pinnate; leaflets cordate, ovate, deeply toothed; peduncles shorter than the leaves. E. B. t. 612. Salisbury Prod. 371. (*C. dumosa*.)

HAB. Hedges in various parts of the county, abundant. Chudleigh, Teignmouth, &c. Rare in the North of Devon, Torrington, Road from Barnstable, and at Braunton. Fl. June, July. ♀

Shrubby; stem contorted; petioles acting as tendrils; flowers paniced, greenish-white, fragrant.

#### 11. THALICTRUM.

1. *Th. minus*, (*lesser Meadow-rue*,) leaves tripinnate; leaflets trifid, glaucous; flowers paniced, drooping. E. B. t. 11.

HAB. Cliffs near Babbicombe, Rev. J. Jervis and Rev. A. Neck. Fl. June, July. ♀

Stem about a foot high; leaves small, spreading; panicle much branched.

2. *Th. flavum*, (*common Meadow-rue*,) stem erect, branched, furrowed; leaves bipinnate; leaflets trifid, wedge-shaped; panicle much branched, subcorymbose; flowers erect. E. B. t. 367.

HAB. Bishop's Clyst Bridge, corner next the turnpike. Fl. July. ♀

2-4 feet high; flowers very yellow, from the numerous erect stamens.



12. RANUNCULUS.

τ. Petals white; pericarps transversely wrinkled.

1. *R. aquatilis*, (*water Crowfoot*,) stem floating, submersed; leaves capillaceous, multifid; floating leaves 3-parted, their lobes cut; petals larger than the calyx. E. B. t. 101.

β. All the leaves many-cut. Fl. Brit. 596. Decandolle, 1. 235. (*R. pantothrix*.)

HAB. In the river Dart, near Totness. Bovey Heathfield, near the Coal Pits. Marychurch, Rev. A. Neck. Fl. May. 2

Varies in size and shape of the lobes of the upper leaves, and in the pericarps being glabrous, or more or less hispid: there is also a small difference occasionally in the size and shape of the petals. On these circumstances, which are by no means constant, 2 or 3 species have been founded; they probably depend on the greater or less depth of the water, and on its being stagnant or running.

2. *R. hederaceus*, (*ivy-leaved water Crowfoot*,) stem creeping; leaves roundish, kidney-shaped, with 3-5 rounded entire lobes; petals about the size of the calyx; stamens 5-12; pericarps glabrous. E. B. t. 2003.

HAB. Watery places, common. Fl. May—August. 2

Stem rooting and branched; leaves smooth and fleshy, on long petioles; flowers small. This and the former belong to the genus *Batrachium* of Decandolle, characterized by the nectiferous pore at the base of the petals and the transversely wrinkled pericarps. In the remaining species the petals have a small scale at the base, and the pericarps are smooth and echinated, but not transversely furrowed.

ττ. Petals yellow; pericarps smooth.

a. Leaves undivided.

3. *R. flammula*, (*lesser Spearwort*,) stem declined, rooting at the base; leaves linear lanceolate, sub-entire, petiolate, the lower ones ovate lanceolate. E. B. t. 387.

β. much smaller, stem creeping. With. Bot. Arr. 2. 505. (*R. reptans*.)

HAB. Wet swampy places, both varieties, common. Fl. July, August. 2

Plant acid; leaves on long footstalks, occasionally serrated.

4. *R. ficaria*, (*Pilewort*,) leaves heart-shaped, angular or crenate, petiolate; sepals 3; petals 9. E. B. t. 584. Huds. Fl. Ang. 284. (*Ficaria verna*.) Decandolle Syst. Veg. 1. p. 304. (*Ficaria ranunculoides*.)

HAB. Meadows and hedges, common. Fl. March, April. 2

The root is composed of many long fascicled tubers; stem one-flowered; leaves smooth and shining, with or without a black spot. Viviparous buds are met with occasionally in the axils of the leaves.

*b. Leaves variously divided.*

5. *R. auricomus*, (*Goldilocks*,) leaves glabrous, radical ones reniform, 3-parted, and cut; stem leaves divided to the base in linear sub-dentate segments; cal. pubescent, shorter than the petals. E. B. t. 624.

HAB. About Exeter, Chudleigh, Ilington. At Berry Castle, and near Torquay, Rev. A. Neck. Fl. April—June. 2

Stem 1-2 feet high, slender, branched; flowers large; petals occasionally wanting; plant not acrid, as most of this genus are.

6. *R. sceleratus*, (*celery-leaved Crowfoot*,) leaves glabrous, radical ones 3-parted, petioled, lobes obtusely cut, upper ones in 3 linear segments; cal. glabrous; pericarps in one oblong spike. E. B. t. 681.

HAB. Ditches at Topaham, Lympstone, Exmouth, and Dawlish. Fl. June—August. 2

Stem 1-2 feet high, stout, succulent, lower leaves very broad and glossy; flowers pale-yellow, and very small; pericarps numerous, smooth, deciduous; plant very acrid.

7. *R. acris*, (*erect meadow Crowfoot*,) leaves 3-parted, their segments acute, trifid, and cut; upper ones linear; peduncles rounded; cal. spreading. E. B. t. 652.

HAB. Pastures, common. Fl. May—July. 2

Plant varies much in size and pubescence; stem erect, 1-2 feet high, branched above.

8. *R. repens*, (*creeping Crowfoot*,) plant with creeping runners; leaves pinnately 3-cut; segments 3-lobed, wedge-shaped, deeply toothed; peduncles furrowed; calyx spreading. E. B. t. 516.

HAB. Pastures, common. Fl. June—August. 2

The creeping scions sufficiently distinguish this species.

9. *R. bulbosus*, (*bulbous Crowfoot*,) root bulbous; stem erect, many-flowered; leaves divided into 3 petiolate leaflets, which are 3-lobed or 3-parted, and cut; peduncles furrowed; cal. reflexed. E. B. t. 515.

HAB. Pastures, common. Fl. May. 2

A foot or more high, more or less hairy; the lobes of the lower leaves sub-ovate, the upper leaves are cut into linear segments; the flowers are occasionally found double.

rrr. Petals yellow; pericarps tuberculate or muricate.

10. *R. parviflorus*, (*small-flowered Crowfoot*,) stem prostrate; leaves cordate, hairy, 3-lobed, toothed or cut; cal.



size of the petals, becoming reflexed; pericarps granularly tuberculate. E. B. t. 120.

HAB. Corn fields and hedges, frequent. Chudleigh, Ashburton, Ilington, North Bovey, &c. Fl. May, June. ☉

Stem branched; leaves on long petioles, the uppermost lanceolate and entire; peduncles opposite the leaves; petals 3-4, very small, occasionally wanting.

11. *R. arvensis*, (*corn Crowfoot*,) stem erect, many-flowered; leaves 3-cleft, their segments mostly again 3-cleft into linear entire, or 2 or 3-toothed segments; pericarps muricate. E. B. t. 135.

HAB. Corn fields in the neighbourhood of Exeter. Witcombe Wood, near Exmouth, Miss Filmore. Fl. June. ☉

Stem much branched; flowers small, pale yellow; pericarps large and very prickly. Plant acrid and poisonous.

12. *R. hirsutus*, (*rough-haired Crowfoot*,) root fibrous; stem erect, hairy, many-flowered; leaves 3-lobed or 3-parted; cal. reflexed; pericarps margined and tuberculate. E. B. t. 1504.

β. Stem dwarfish, mostly 1-flowered. Fl. Brit. p. 592. (*R. parvulus*.)

HAB. On the London road by Heavitree Bridge, Mr. Jacob. Fl. June—August. ☉

Varies much in size from 3-18 inches, mostly very hairy, hairs spreading; leaves pale-coloured.

### 13. HELLEBORUS.

1. *H. viridis*, (*green Hellebore*,) stem leafy; leaves digitate; perianth spreading. E. B. t. 200.

HAB. Orchards at Rora, near Ilington, Orchards at Marychurch, Rev. A. Neck. Fl. April. 24

Stem from 1-2 feet high; leaves large on a broad leafy petiole, upper ones sessile; segments linear, lanceolate, serrated at the end; cal. fine, large, greenish-yellow leaves; cor. of many small tubular petals.

### 14. CALTHA.

1. *C. palustris*, (*marsh Marigold*,) leaves cordate, crenate. E. B. t. 506.

β. Stem creeping; leaves triangularly cordate. E. B. t. 2175. (*C. radicans*.)

HAB. Wet places, common. Fl. May, June. 24

Varies in size and direction; lower leaves on long footstalks, which are furrowed; leaves vary in shape and depth of marginal crenatures; flowers large, terminal, yellow.

## XIV. DIDYNAMIA.

### I. GYMNOSPERMIA.

#### 1. AJUGA.

1. *A. reptans*, (*common Bugle*,) stolones creeping; stem solitary; leaves oblong, ovate. E. B. t. 489. Raii Synop. 245. 1. (*Bugula vulgaris*.)

HAB. Woods and pastures, common. Fl. April—June. 24

Leaves more or less crenate, upper ones sessile; flowering stem simple, erect; flowers blue, in whorls in the axils of the upper leaves or bractes.

#### 2. TEUCRIUM.

1. *T. scorodonia*, (*wood Sage*,) stem erect; leaves petiolate, cordate, crenate, pubescent; flowers in lateral and terminal racemes, secund. E. B. t. 1543. Raii Syn. 245. 1. (*Scorodonia*.)

HAB. Woods and hedges, common. Fl. July, August. 24

Stem 4-sided, leaves very wrinkled; flowers whitish yellow; stamens purplish-red, much protruded; plant very bitter.

#### 3. NEPETA.

1. *N. cataria*, (*Cat-mint*,) leaves petiolate, cordate, toothed, serrate; flowers in spiked, sub-pedicelled whorls. E. B. t. 137.

HAB. Fields at Ilington. About Lustleigh. Fl. July, August. 24

2-3 feet high; stem and leaves downy and whitish; flowers white, with a reddish tinge.

#### 4. MENTHA.

1. *M. rotundifolia*, (*round-leaved Mint*,) leaves roundish, blunt, crenate, wrinkled, tomentose beneath; flowers in terminal interrupted spikes. E. B. t. 446. Sole Menth. Brit. 7. 3. (*M. sylvestris*.)

HAB. Court Wood and the Churchyard at Ilington. Waste places at North Bovey. Sidford, Rev. J. Jervis. Mamhead Grounds and Canon-teign Woods, Rev. S. Weston. Woods near Biddeford, and near Hall, Dr. Wavell. Near Harberton Bridge. Fl. August, September. 24

Leaves sessile, acutely crenate; flowers pale-red, in rather distant whorls; stamens exerted.

2. *M. viridis*, (*Spear-Mint*,) leaves sessile, cordate, lanceo-

late, acute, serrate, naked; spikes attenuated, interrupted.  
E. B. t. 686. Sole Menth. 2. t. 5.

HAB. Near Exmouth, Hudson. Near Sidford, Rev. J. Jervis. Fl. July, August. 24

Stem erect, naked; bracteas twice as long as the flowers; pedicels and calyx naked. This species is commonly cultivated as a garden herb. Used in stopping nausea and vomiting.

Raii Syn. 233. 1, 2, and 3, are varieties of this species.

3. *M. piperita*, (*Peppermint*,) leaves petiolate, ovate, serrate, nearly naked; calyx quite naked at the base; stamens enclosed. E. B. t. 687. Fl. Ang. 251. Sole Menth. Brit. 15. 7. and 19. 8. and 53. 24.

HAB. Wet places, not unfrequent. Chudleigh, Ashburton. Fl. August, September. 24

Plant with creeping scions; stem branched; leaves dark-green, pale beneath; spike solitary, long; the lower whorl remote. This species, like the last, is common in gardens.

4. *M. hirsuta*, (*hairy Water-Mint*,) leaves petiolate, ovate, serrate, pubescent; flowers capitate or whorled; pedicels and calyx clothed with hairs. E. B. t. 447 and 448. (*M. sativa*.) Fl. Ang. 252.  $\alpha$ .  $\beta$ . (*M. aquatica*.) Gray Nat. Arr. 2. 361. (*M. glomerata*.)

HAB. Wet places, frequent. Fl. August, September. 24

Very variable in form: stem with deflected hairs; leaves pubescent; flowers capitate or whorled; the whorls sometimes placed so close on the end of the branches as to form a spike; purplish; stamens varying in length.

Huds. Fl. Ang. 251. (*M. piperita*,  $\beta$ .) Sole Menth. 13. 6. (*M. palustris*,) and ditto 49. 22. (*M. paludosa*,) and ditto 45. (*M. rivalis*,  $\beta$ .  $\gamma$ . and  $\delta$ .) With. Bot. Arr. 3. 525. (*M. arvensis*. Var. 2. *sativa*.) Raii Syn. 232. 2., 232. 4., 233. 8., and 234. 4. are all varieties of this species.

5. *M. rubra*, (*tall red Mint*,) stem erect, flexuose; leaves ovate, petiolate, serrate, sub-glabrous; flowers whorled; pedicels and lower part of the calyx quite glabrous; teeth of calyx hairy. E. B. t. 1413. Linn. Trans. 5. 205. Sole Menth. Brit. 47. 24. (*M. sativa*.)

$\beta$ . *gentilis*, stem much branched, spreading. E. B. t. 2118. Sole Menth. Brit. 41. 18. (*M. rubra*.)

HAB. About Topsham and Ilington. Fl. September. 24

From 4-6 feet high; in  $\beta$ . *gentilis* about 12-18 inches; leaves dark-green, the upper ones small and roundish; bracteas linear; flowers purplish-red, rather large.

Raii Syn. 232. 4. (*M. crispa*, *verticillata*, &c.) and Sole Menth. Brit. 39. 17. (*M. pratensis*,) and ditto, 41. 18. (*M. rivalis*,  $\alpha$ .) and ditto, 43. 19. (*M. variegata*,) are varieties of this species.

6. *M. gracilis*, (*narrow-leaved Mint*,) stem erect, much

branched; leaves lanceolate, acute, serrate, subsessile; flowers whorled; peduncles and base of the calyx quite glabrous; teeth hairy. E. B. t. 449. Sole Menth. Brit. 37. 16. Huds. Fl. Ang. 252. (*M. rubra*.)

HAB. In wet places, not unfrequent. Fl. August. 24

Leaves light-green, slightly hairy on both sides; whorls subsessile; bractes lanceolate; stamens enclosed.

Sole Menth. Brit. 35. 15. (*M. gentilis*,) is a var. of this species.

7. *M. arvensis*, (*Corn-Mint*,) stem branched; leaves ovate, hairy, serrate; calyx campanulate, clothed with spreading hairs. E. B. t. 2119.

β. *M. agrestis*. E. B. t. 2120.

HAB. Corn fields, waste places, &c. common. Fl. June—September. 24

Stem diffuse; leaves petioled; whorls many-flowered, subsessile; bractes lanceolate; stamens exerted; but the short campanulate calyx with spreading hairs is the chief distinction of this species.

Sole Menth. Brit. 29. γ. 31, 13. and 33. 14. are varieties of this species.

## 5. GLECHOMA.

1. *G. hederacea*, (*Ground Ivy*,) leaves reniform, crenate. E. B. t. 768.

HAB. Hedges and fields, common. Fl. April, May. 24

A very creeping plant, with petiolate, pubescent, or hairy leaves, and blue axillary flowers in threes; astringent.

## 6. LAMIUM.

1. *L. album*, (*white Dead-Nettle*,) leaves cordate, acuminate, deeply serrate, petiolate; whorls of about 20 flowers. E. B. t. 768.

HAB. Hedges and waste places, common. Fl. May—September. 24

Calyx smooth, with a brown spot; cor. large, white; anthers black.

2. *L. purpureum*, (*red Dead-Nettle*,) leaves cordate, obtuse, toothed, petioled, upper ones crowded; whorls 8-10 flowered; cor. tube bearded within. E. B. t. 1953.

HAB. Waste places and gardens, common. Fl. May—September. ☉

Leaves unequally and bluntly crenate; flowers purple, or occasionally white.

3. *L. amplexicaule*, (*great Hen-bit*,) floral leaves sessile, amplexicaul, obtuse. E. B. t. 770.

HAB. In a field below the Beacon at Exmouth, Mr. Jacob. Fl. February—June.

The habit of the preceding species; distinguished by its sessile amplexicaul leaves and beautiful rose-coloured flowers.



## 7. GALEOPSIS.

1. *G. Ladanum*, (*red Hedge-Nettle*,) stem not swollen below the joints; leaves lanceolate, hairy, subserrate; cor. the upper lip slightly crenate. E. B. t. 384.

HAB. In dry situations, common. Fl. June—September. ☉

Stem 12-18 inches high, with opposite branches; leaves rather small, petiolate; flowers purplish rose-colour.

2. *G. Teirahit*, (*common Hemp-Nettle*,) stem incrassated below the joints; leaves ovate, serrate, hairy; cor. twice the length of the cal. upper lip nearly straight. E. B. t. 207.

HAB. Fields, common. Fl. July, August. ☉

Stem 1-2 feet high, hispid; flowers white and purplish.

## 8. GALEOBDOLON.

1. *G. luteum*, (*yellow Archangel*,) E. B. t. 787.

HAB. Shady and damp situations, frequent. Fl. May. ♀

Stem 1-2 feet high, erect, simple, hairs deflexed; leaves petioled, ovate, acuminate, deeply serrate; flowers whorled, yellow, lower lip spotted red.

## 9. BETONICA.

1. *B. officinalis*, (*Wood Betony*,) spike interrupted; cor. middle lobe of the lower lip notched. E. B. t. 1142.

HAB. Woods and hedges, common. Fl. July, August. ♀

Stem 1-2 feet high, hairy; leaves few, blunt, with broad serratures, lower ones ovate, elliptical, petioled; upper ones sessile; cor. purple.

## 10. STACHYS.

1. *S. sylvatica*, (*Hedge Woundwort*,) stem solid; leaves cordate, acute, serrate, petiolate; whorls 6-flowered. E. B. t. 416.

HAB. Woods and hedges, common. Fl. July, August. ♀

Stem 2-3 feet high, simple, hairy; spike ovate, interrupted; flowers purple, lower lip spotted.

2. *S. palustris*, (*Marsh Woundwort*,) leaves linear, lanceolate, serrate, sessile; whorls about 6-flowered. E. B. t. 1675.

HAB. In wet places, common. Fl. August. ♀

Root tuberous; stem rough, hairs deflexed; leaves opposite, woolly beneath, lower ones slightly petioled, upper ones semi-amplexicaul; spike long and dense; cor. purple, lower lip streaked with white.

3. *S. arvensis*, (*Corn Woundwort*,) stem weak; leaves cordate, obtuse, crenate, slightly hairy; whorls 6-flowered, length of the calyx. E. B. t. 1154.

HAB. Tillage fields, &c. common. Fl. July, August. ☉

## 100 DIDYNAMIA. GYMNOSPERMIA. CLINOPODIUM.

The small size, weak, branched stems, and pale purplish flowers, scarcely longer than the cal., distinguish this species.

### 11. BALLOTA.

1. *B. nigra*, (*stinking Horehound*,) leaves ovate, serrate; cal. ciliated above, sub-truncated, the teeth patent. E. B. t. 46.

HAB. Road-sides and waste places, frequent. Fl. July, August. 24

Stem 2-3 feet high, branched; whorls bracteate; bractæ bristle-shaped, fringed, shorter than cal.; cor. purple; plant fetid.

### 12. MARRUBIUM.

1. *M. vulgare*, (*white Horehound*,) stem erect, leaves roundish, ovate, toothed, wrinkled; cal. with 10 setaceous, hooked teeth. E. B. t. 410.

HAB. Along the coast, frequent. Fields near Chudleigh, not common. Ingsdon, near Ilsington. Waste places at Marychurch, Rev. A. Neck. Fl. July. 24

12-18 inches high, bushy, every where clothed with a thick white pubescence; bractæ setaceous; flowers small, white; plant bitter.

### 13. LYCOPUS.

1. *L. Europæus*, (*Water-Horehound*,) leaves ovato-lanceolate, deeply sinuated, serrated. E. B. t. 1105.

HAB. Sides of streams, frequent. Fl. June—September. 24

Stem 1½ or 2 feet high, square, erect; flowers sessile in dense whorls at the base of the leaves, whitish, with purple dots. The juice of this plant stains a permanent brown, and with green vitriol forms a black dye.

### 14. LEONURUS.

1. *L. cardiaca*, (*Motherwort*,) leaves petiolate, lower ones cuneiform, ovate, 3-lobed, toothed; upper ones lanceolate, entire. E. B. t. 286.

HAB. Hedges, occasionally. Near Canonteign, Chudleigh, Lustleigh, North Bovey, Teigngrace. Fl. July, August. 24

2-3 feet high, branched; flowers in crowded whorls; calyx with pungent spreading teeth; cor. white, with a reddish tinge. An antispasmodic.

### 15. CLINOPODIUM.

1. *C. vulgare*, (*wild Basil*,) leaves ovate, obscurely serrate, petiolate; bractæ setaceous; pedicels branched. E. B. t. 1401.

HAB. Woods and hedges, frequent. Fl. August. 24

Stem 1-2 feet high, mostly simple, hairy; flowers large, purple, in crowded axillary and terminal whorls. Aromatic.



## 16. ORIGANUM.

1. *O. vulgare*, (*common Marjoram*,) leaves ovate, entire; spike roundish, paniced, conglomerate; bractæ ovate, coloured, length of the calyx. E. B. t. 1143.

HAB. Hedges, frequent. Totness, Chudleigh, Ilsington, &c. Branscombe Cliffs, Rev. J. Jervis. Fl. July, August. 24

Stem 12 inches high; flowers purple, fragrant and aromatic. A variety of this is cultivated as a pot-herb.

## 17. THYMUS.

1. *T. serpyllum*, (*wild Thyme*,) stems decumbent, branched; leaves plane, ovate, entire, petiolate, ciliate at the base; flowers capitate. E. B. t. 1514.

HAB. Dry exposed heaths, pastures, &c. frequent, Fl. July, August. 24

Variable in size, in the hairiness of the leaves, and in the scent; flowers purple, the middle lobe of the lower lip entire. In With. Bot. Arr. 537. nine varieties are enumerated. In Gray's Nat. Arr. 2. 282. three or four species are made of this plant.

2. *T. acinos*, (*Basil Thyme*,) stem ascending, branched; leaves oblong, acute, serrate; whorls 6-flowered; flowers on simple stalks. E. B. t. 411. Pers. Syn. 131. (*Acinos vulgaris*.) Lamarck, Fl. Fr. 391. (*Calamintha arvensis*.)

HAB. In dry pastures, frequent. Fl. July, August. 24

Stem 6-10 inches high; leaves sometimes nearly entire; peduncles 1-flowered; flowers purplish blue, middle lobe of the lower lip emarginate.

3. *T. calamintha*, (*common Calamint*,) leaves ovate, serrate; whorls axillary, peduncled, forked, many flowered. E. B. t. 1676. With. Bot. Arr. 538. (*Melissa calamintha*.) Lamarck Fl. Fr. 391. (*Calamintha montana*.)

HAB. Road-sides near Chudleigh, Ilsington, &c. Fl. July, August. 24

Leaves petiolate, with shallow serratures; cal. the hairs of the throat not prominent; cor. twice the length of the calyx, lilac, lower lip dotted and streaked; fragrant.

## 18. MELITTIS.

1. *M. melissophyllum*, (*bastard Baum*.) E. B. t. 577 and 636. (*M. grandiflora*.)

HAB. In the south of the county, frequent. About Totness. Woods near Ugbrooke. Buckland and Spitchwick Woods. Rora and Pen Woods, Ilsington. Hayes Wood near Budleigh. Road between Tap-house and Crediton, and about Tedburne. Sandridge Wood, and about Torquay. Fl. May, June. 24

102 DIDYNAMIA. GYMNOSPERMIA. PRUNELLA.

Root fibrous ; stem simple ; leaves ovate, serrate, petiolate, wrinkled ; whorls axillary, 6-8 flowered, peduncles 1-flowered ; cal. 3-lobed, the upper segment entire, or more or less deeply 2-cut, differing in this respect in flowers of the same plant, large ; cor. flesh-colour, or white, lip purple, with a white border ; whole plant hairy, with a disagreeable smell.

Note.—We suspect that *M. melissophyllum* and *M. grandiflora* are the same plants. In the habitats where the former is said to grow, we have found the plant described in Smith's Fl. Brit. by the name of *M. grandiflora*. As we have never found but one species of *Melittis* in the county, we have retained the old specific name. Dr. Smith's specific distinction, respecting the division of the lobes of the calyx, is altogether fallacious ; on the same plant we have observed the calyx both 3 and 4 lobed.

19. SALVIA.

1. *S. verbenaca*, (*wild Clary*,) leaves sinuate, serrate ; cor. narrower than the cal. E. B. t. 154.

HAB. Banks in dry pastures, not frequent. Cliffs at Topsham. Torquay. Trusham Churchyard. Side of the road at Heavitree, Mr. Jacob. On the Castle Hill at Barnstaple, Dr. Wavell. Fl. June. 2

1-2 feet high ; lower leaves lobed or sinuated and crenate, ovate and petiolate ; the upper leaves sessile and deeply serrated, they are all rough and veined ; flowers small and purple.

20. SCUTELLARIA.

1. *S. galericulata*, (*hooded Skullcap*,) leaves cordate, lanceolate, distinctly crenate ; flowers axillary. E. B. t. 523.

HAB. Watery places and banks of streams, frequent. Bovey Heathfield, Clyst Bridge, Fingle Bridge, Chudleigh Bridge, near Crediton, &c. Fl. July, August. 2

12-18 inches high ; flowers on short pedicels, solitary, or on opposite sides the stem in pairs, looking one way, blue, rather large, pubescent.

2. *S. minor*, (*lesser Skullcap*,) leaves cordate, ovate, entire ; flowers axillary. E. B. t. 524.

HAB. In bogs, frequent. Woodbury Hill, Haldon, Dartmoor, &c. Fl. August. 2

Stem slender, branched below, about 6 inches high ; lower leaves with a tooth or two at the base, sub-hastate ; upper leaves narrower and entire ; flowers pale reddish, lower lip spotted.

21. PRUNELLA.

1. *P. vulgaris*, (*Selfheal*,) leaves oblong, ovate, subdentate at the base, petiolate. E. B. t. 961.

HAB. Fields and hedges, common. Fl. July, August. 2

Stem branched ; flowers densely whorled, forming an imbricated oblong spike, with a pair of obcordate bracteas beneath each whorl ; cor. violet-blue, lower lip finely toothed.



## II. ANGIOSPERMIA.

### 22. BARTSIA.

1. *B. viscosa*, (*yellow Bartsia*,) leaves lanceolate, serrate, upper ones alternate; flowers lateral, distant; anthers hairy. E. B. t. 1045.

HAB. In marshy places, occasionally. Bovey Heathfield, near the Coal Pits. Exmouth Warren, near the Saltworks. Fields above Dartmouth Castle. Between Dean and Ivybridge. By a brook near Bow village, between Totness and Newton. Fields at Instow, Dr. Wavell. Hills above Bigbury Bay, Mr. Yonge. Fl. July, August. ☉

Stem 8-12 inches high, simple, erect; leaves sessile; flowers single, yellow, subsessile; whole plant pubescent and rather viscid, with a faint musky smell.

2. *B. odontites*, (*red Bartsia*,) stem branched; leaves lanceolate, serrate; flowers racemed; secund; anthers sub-glabrous. E. B. t. 1415.

HAB. Fields, common. Fl. July—September. ☉

6-12 inches high, hairy; racemes many, longish, erect; flowers purplish-red, with narrow leaf-like bractæas at the base; anthers exserted.

### 23. EUPHRASIA.

1. *E. officinalis*, (*Eyebright*,) leaves ovate, toothed, veined, furrowed. E. B. t. 1416.

HAB. In dry pastures, common. Fl. July—September. ☉

Varying from 1 to 6-8 inches high, more or less branched; flowers axillary, but crowded into a head; white or purplish, with deeper purple lines and yellow palate.

### 24. RHINANTHUS.

1. *Rh. crista-galli*, (*yellow Rattle*,) leaves lanceolate, serrate; cal. glabrous. E. B. t. 657.

HAB. Meadows and pastures, frequent. Fl. June. ☉

Stem 12 inches high, branched, smooth, often spotted with purple; flowers axillary, but rather crowded and spiked; cal. reticulately veined, becoming larger in fruit; cor. yellow, upper lip arched. A var. is occasionally met with, leaves narrower and smaller, blossoms with a purple lip.

### 25. MELAMPYRUM.

1. *M. pratense*, (*common Cow-wheat*,) leaves in distant pairs; upper bractæ pinnate, dentate; flowers axillary, secund; cor. 4 times the length of the cal. closed, the lower lip protruded. E. B. t. 113.

HAB. Woods and shady places, common. Fl. July, August. ☉

12-18 inches high, slender, branched; leaves lanceolate, acuminate, entire; flowers rather large, pale-yellow, tube white.

104 DIDYNAMIA. ANGIOSPERMIA. ANTIRRHINUM.

2. *M. sylvaticum*, (*small-flowered Cow-wheat*,) leaves in distant pairs; bracteæ entire; cor. half as long again as the cal., open; lower lip same length as the upper. E. B. t. 804.

HAB. Near Lidford Fall, Rev. J. Jervis. Fl. July. ☉

Distinguished from the former by the entire bracteas; much smaller and deep yellow corolla, whose lower lip is not protruded.

26. PEDICULARIS.

1. *P. palustris*, (*marsh Lousewort*,) stem single, branched; cal. ovate, hairy, 2-lobed, crenate. E. B. t. 399.

HAB. In bogs and wet places, common. Fl. June, July. ♀

Root fibrous; stem 12-18 inches high, angular, with many small lateral branches; leaves pinnate; pinnæ ovate, sub-pinnatifid; cal. rather leaf-like; cor. solitary, axillary, rose-coloured.

2. *P. sylvatica*, (*common dwarf Lousewort*,) stems many, from the same root, spreading; cal. oblong, angular, glabrous, unequally 5-cut. E. B. t. 399.

HAB. Heaths and wet pastures, common. Fl. June, July. ♀

3-8 inches high; lower leaves pinnatifid, the upper pinnate with deeply serrate pinnæ; flowers large, rose-coloured.

27. ANTIRRHINUM.

τ. Stem procumbent; leaves broad; cor. spurred.

1. *A. cymbalaria*, (*ivy-leaved Snapdragon*,) leaves cordate, 5-lobed, alternate, glabrous. E. B. t. 502. Gray Nat. Arr.

2. 231. (*Cymbalaria hederacea*.)

HAB. Walls in and about Exeter, Mr. Jacob. Walls of the Vicarage and Churchyard at Widdicombe-in-the-Moor. Fl. May—November. ♀

Stems long, filiform, trailing, interweaving; leaves petiolate, fleshy, purplish beneath; flowers pale-blue; whole plant glabrous. Perhaps not strictly indigenous, but has completely naturalized itself.

2. *A. spurium*, (*round-leaved Fluellin*,) leaves ovate, alternate, hairy; peduncles villose. E. B. t. 691.

HAB. Fields at Teignmouth and Kingsteignton, Mr. Anderson. Fl. July—September. ☉

Nearly allied to the following; the principal distinction is the round sub-ovate leaves. Perhaps only a variety.

3. *A. elatine*, (*sharp-pointed Fluellin*,) lower leaves ovate, upper ones hastate; peduncles smooth. E. B. t. 692. Gray Nat. Arr. 2. 321. (*Elatine hastata*.)

HAB. Tillage fields, &c. frequent. Fl. July—October. ☉

Leaves hairy; sepals lanceolate; peduncles in flower expanding, in fruit declining; cor. yellow and blue.



TT. Stem erect; leaves narrow; cor. spurred.

4. *A. repens*, (*creeping Toad-flax*,) stem panicled; leaves linear, whorled, or scattered; cal. glabrous, length of the spur; cor. striate. E. B. t. 1253.

HAB. On the Downs west of Christowe, near a farm called Kennock, Mr. Puddicombe. Fl. July—September. 24

Root creeping; stem 12-18 inches high, branched; lower leaves whorled; flowers in panicled racemes; cor. blueish, with yellow palate; seeds angular.

5. *A. linaria*, (*common Toad-flax*,) leaves linear lanceolate, glabrous, crowded: spike terminal; flowers imbricate; cal. glabrous, shorter than the spur. E. B. t. 658.

HAB. Hedges, &c. common. Fl. June, July. 24

Root creeping; stem 1-2 feet high, or more, mostly simple; flowers yellow; throat fulvous, villose. A var. nearly white occurs; another with a double spur; and a third with a regular 5-fid and 5-spurred corolla, and 5 equal stamens, (*Peloria*, Linn. Amœn. Acad. 1. 3.)

6. *A. minus*, (*least Toad-flax*,) leaves linear lanceolate, obtuse, mostly alternate, pubescent; cal. longer than the spur. E. B. t. 2014.

HAB. Tillage fields, frequent. Ilington, Bovey Tracey, Hennock. Fl. June—August. ☉

Root small; stem erect, branched, pubescent; flowers small, lower lip white, palate yellow; a short, acute spur.

TTT. Cor. gibbous at the base.

7. *A. orontium*, (*field Snapdragon*,) leaves lanceolate; flowers rather spiked; sepals linear, longer than the cor. E. B. t. 1155. Persoon Syn. 2. 159. (*Orontium arvense*.)

HAB. Fields and gardens, frequent. Fl. July, August. ☉

Stem branched, hairy; leaves very entire; cal. unequal; cor. rose-coloured.

8. *A. majus*, (*great Snapdragon*,) leaves lanceolate; flowers spiked; sepals ovate, obtuse. E. B. t. 129. Persoon Syn. 159. (*Orontium majus*.)

HAB. Old Walls, frequent. Totness Castle, Exeter, Chudleigh, Tor Abbey. Fl. July, August. 24

1-2 feet high; cal. short, with glandular hairs; cor. very large, mostly purplish-red, varying to white occasionally.

## 28. SCROPHULARIA.

1. *S. nodosa*, (*knotty Figwort*,) stem with 4 acute angles; leaves cordate, acute, serrate. E. B. t. 1544.

HAB. Woods and hedges, common. Fl. July. 24

106 DIDYNAMIA. ANGIOSPERMIA. OROBANCHE.

Root granulated; stem 2-3 feet high, erect, simple; leaves petiolate; panicles bracteate, dichotomous, terminal, and axillary; cor. dark blood-colour.

2. *S. aquatica*, (*Water Figwort*,) stem winged at the angles; leaves cordate, serrate, obtuse, decurrent. E. B. t. 854.

HAB. Wet places, frequent. Fl. July. ♀

Root fibrous; stem 3-4 feet high; panicles bracteate, dichotomous, terminal, without leaves; cor. dark blood-colour.

29. DIGITALIS.

1. *D. purpurea*, (*Foxglove*,) leaves ovate, lanceolate, pubescent; sepals ovate, acute; cor. obtuse, upper lip undivided. E. B. t. 1297.

HAB. Dry pastures, hedges, rubbish, exposed situations, &c. common. Fl. July. ♀

Stem 3-6 feet high, with large veined leaves, and long terminal spike of drooping flowers, purple, rarely white; flowers spotted within. An active and valuable medicine.

30. VERBENA.

1. *V. officinalis*, (*Vervain*,) stem erect, solitary; leaves inciso-pinnatifid; spikes slender, panicled. E. B. t. 767.

HAB. Waste places, frequent. Fl. July.

Stem 1-2 feet high, slender, panicled above; flowers small, tubular, subequal, purplish, each with a small bractea at the base.

31. SIBTHORPIA.

1. *S. Europæa*, (*Cornish Moneywort*,) leaves reniform or peltate, crenate. E. B. t. 649.

HAB. Boggy places in the south of the county, rare. Between Newbridge and Spitchwick Lodge. About the springs in the village of Tor, near Harford, Sir Francis Drake and Mr. Hudson. Marshes at Staverton. Rattery and Sherford. Cornwood, Herb. in Dev. and Ex. Inst. Fl. July—September. ♀

The situation and general habit of this plant closely resemble *Hydrocotyle*, as the fruit does *Veronica*. Cal. 5-cleft and hispid; cor. small, mostly 5-cleft, yellowish, purplish at the base.

32. OROBANCHE.

1. *O. major*, (*greater Broom-rape*,) stem simple; cor. tubular, upper lip undivided, lower one in 3 subequal segments, lateral, acute, terminal one largest, obtuse; Stam. glabrous; style downy. E. B. t. 421.

HAB. Road leading to Oxton House, near Kenton. Plantations at Mamhead. Road between Exeter and Moreton, Rev. W. Hincks. Lustleigh Cleve, Rev. A. Neck. Near Kenford and at Marypole Head, Mr. Jacob. Ugbrooke Park, the Hon. Mrs. Weld. Fl. June, July. ♀ ?



CORONOP. TETRADYNAMIA. SILICULOSA. 107

Stem 1 foot high, pubescent; spike many-flowered; flowers rusty, with a purplish tinge.

2. *O. minor*, (*lesser Broom-rape*,) stem simple; cor. tubular; stam. hairy; style smooth. E. B. t. 422.

HAB. Fields about Alphington and Shillingford, Rev. R. P. Welland. Fields at Kenton, Rev. A. Neck. Fl. July, August.

Less than the former; flowers pale-purple.

3. *O. ramosa*, (*branched Broom-rape*,) stem branched; cal. 4-cleft; cor. 5-cleft, lobes obtuse, entire. E. B. t. 184.

HAB. Mentioned by Hudson, as growing wild in Devon. Fl. August, September. ☉

## XV. TETRADYNAMIA.

### I. SILICULOSA.

#### 1. CAKILE.

1. *C. maritima*, (*Sea-rocket*,) leaves pinnatifid, slightly toothed, fleshy; pouch, the joints 2-edged, the upper one sagittate. Fl. Scot. 193. E. B. t. 231. (*Bunias Cakile*.)

HAB. Along the coast, frequent. Fl. June—September. ☉

Smooth, fleshy, much branched, branches flexuose; cor. light purple; pouch thick and fleshy. In the whole of this class the flowers are corymbose.

#### 2. CRAMBE.

1. *C. maritima*, (*Sea-kale*,) stem glabrous; leaves roundish, sinuated, waved, toothed, glaucous and glabrous; filam. the 4 larger ones forked; pouch pointless. E. B. t. 924.

HAB. Cliffs at Sidmouth and Dawlish. Slapton Sands, it was first obtained from thence for cultivation in 1795. Fl. May, June. ☿

Root large, fleshy; stem branched, leaves petiolate; flowers white, cultivated.

#### 3. CORONOPUS.

1. *C. Ruellii*, (*Swine's-cress*,) pouch undivided, crested with small spines. E. B. t. 1660. With. Bot. Arr. 574. (*Cochlearia coronopus*.)

HAB. Waste places, frequent. About Exeter. Chudleigh. In the village of Bovey Tracey. Fl. June—August. ☉

A small, spreading, trailing, much branched weed; leaves glabrous, bipinnate, segments linear; flowers few, very small, white, in lateral axillary corymbs; pouch relatively large and curiously crested.

108 TETRADYNAMIA. SILICULOSA. TEESDALIA.

2. *C. didyma*, (*procumbent Pepperwort*,) pouches didymous, reticulately wrinkled, not crested. E. B. t. 248. Fl. Brit. 691. (*Lepidium didymum*.) Decand. Fl. Fran. 4238. (*Sennebiera pinnatifida*.)

HAB. About Exeter. Topsham. Lympstone. Starcross. Abundant. Torquay, Rev. A. Neck. Fl. July, August. ☉

Stem trailing, hairy; leaves pinnatifid; flowers white, very small, in lateral corymbs, becoming long racemes; stamens 2 or 4.

4. THLASPI.

1. *Th. arvense*, (*Penny-cress*,) stem branched above; leaves oblong, sagittate, toothed, glabrous; pouch orbicular, its wings dilated, longitudinal; seeds concentrically striate. E. B. t. 1659.

HAB. Fields and hedges, Chudleigh, Lympstone, Teignmouth, North Bovey, Ilington, &c. frequent. Fl. June, July. ☉

About one foot high, erect; cor. very small, white; pouches very large, with broad wings.

2. *Th. Alpestre*, (*Alpine Shepherd's-purse*,) stem single; leaves of the root ovate, of the stem cordate, sagittate; pouch obovate, retuse. E. B. t. 81. Huds. Fl. Ang. 282. (*Thlaspi montanum*.)

HAB. Ilington. Fl. June, July. ☿

Stems many, simple; corymb small, crowded, becoming a long raceme; cor. white.

3. *Th. Bursa-pastoris*, (*Shepherd's-purse*,) root leaves pinnatifid; pouch obcordate, without wings. E. B. t. 1485.

HAB. Waste places, &c. common. Fl. March—October. ☉

This plant varies much in size and in the form of the leaves, the lower ones are more or less pinnatifid, the upper lanceolate, sagittate, all generally toothed and hairy; flowers small, white; the obcordate wingless pouch is the best characteristic.

5. TEESDALIA.

1. *T. nudicaulis*, (*naked-stalked Candytuft*,) Brown in Hort. Kewen. 4. 88. E. B. t. 327. (*Iberis nudicaulis*.)

HAB. Dry sandy hedges. Lympstone. Hedges on Bovey Heathfield. Moreton. North Bovey. Lustleigh. Widdecombe-in-the-Moor. Ilington, abundant. Fl. May. ☉

Stems 2-6 inches high, with occasionally a small leaf or two; leaves almost entirely radical, lyrate, pinnatifid; flowers white, 2 of the petals longer than the others.

## 6. LEPIDIUM.

1. *L. campestre*, (*hoary Pepperwort*,) stem leaves sagittate, toothed; style length of the notch; pouch ovate, emarginate, winged, glandularly dotted. Linn. Sp. Plan. 902. E. B. t. 1803. (*Thlaspi campestre*.)

HAB. Hedges, &c. frequent. Fl. June, July. ☉

Stem a foot high, solitary, branched above; lower ones almost spatulate; leaves, racemes, and pedicels all slightly pubescent.

2. *L. hirtum*, (*hairy Pepperwort*,) stem leaves sagittate, toothed; style half as long as the pouch; pouch ovate, emarginate, glabrous, winged. Fl. Scot. 195. E. B. t. 1803. (*Thlaspi hirtum*.)

HAB. About Exeter. Dartmoor. Fl. June, July. ☿

Stems many from the same root, 6-10 inches high; it has considerable resemblance to the last, but is more pubescent, and the pod has uniformly a much longer style, and is without any glandular scales.

## 7. COCHLEARIA.

1. *C. officinalis*, (*common Scurvy-grass*,) root leaves petiolate, reniform; stem leaves sessile, oblong, sinuate, pouch globose. E. B. t. 351. and 2403. (*C. Groenlandica*.)

HAB. Topsham Marshes. The Hoe, Plymouth. Walls at Torquay, and between Teignmouth and Dawlish on the Cliffs, Rev. A. Neck. Fl. May, June. ☉

Stem 6-12 or more inches, angular, much branched below; leaves succulent, more or less entire, those of the stem semi-amplexicaul; flowers white.

2. *C. Danica*, (*Danish Scurvy-grass*,) leaves all petiolate, deltoid; pouch elliptical. E. B. t. 697.

HAB. On the sea coast, frequent. Babbicombe, Miss Filmore. Budleigh Salterton, Mr. Jacob. Between Dawlish and Teignmouth, Rev. W. Hincks. Torquay, Rev. Dr. Beeke. Slapton Lea, and near Dartmouth Castle, Rev. R. P. Welland. Braunton Burroughs, Dr. Wavell. Fl. May. ☉

4-6 inches high, branched; leaves sometimes entire, sometimes lobed and sinuate.

3. *C. Anglica*, (*English Scurvy-grass*,) radical leaves ovate; stem leaves lanceolate, dentate; pouch elliptic, reticulated, veined. E. B. t. 552.

HAB. Topsham Marshes. Fl. May. ☉

Nearly allied to the last, from which it is hardly distinct.

4. *C. Armoracia*, (*Horse-radish*,) root leaves oblong, crenate; stem leaves lanceolate, serrate, or entire. E. B. t. 2323.



3. *N. terrestre*, (*annual Nasturtium*,) root fusiform; leaves lyrate, pinnatifid, toothed, glabrous; petals the length of the cal. Hort. Kew. E. B. t. 1747. (*Sisymbrium terrestre*.) Huds. Fl. Ang. 296. (*Sisymbrium amphibium*, var.  $\alpha$ .)

HAB. Side of the river at Exwick, Mr. Jacob. Fl. June—September. ☉

Distinguished from the last by the pinnatifid, not pinnate leaves, the very small yellow petals, and the more turgid pods.

4. *N. amphibium*, (*great Water-Rocket*,) root fibrous; leaves oblong, pinnatifid or serrate; pet. larger than the cal. Hort. Kew. 110. E. B. t. 1840. (*Sisymbrium amphibium*.) Fl. Ang. 296. (*Sisymb. amphibium*,  $\beta$ .)

HAB. Exe River, near the village of Wear. Fl. June—August. ☉

2-3 feet high, branched; flowers yellow; pods short.

### 13. SISYMBRIUM.

1. *S. officinale*, (*Hedge-Mustard*,) stem hispid; leaves runicinate, hairy; pods subulate, downy, pressed close to the stalk. Hort. Kew. 111. E. B. t. 735. (*Erysimum officinale*.)

HAB. Road sides, waste places, &c. common. Fl. June, July. ☉

Stem 2 feet high, branched; flowers very small, pale-yellow.

2. *S. sophia*, (*Flix-weed*,) leaves doubly pinnate; leaflets linear, terminal one longest; pet. shorter than the cal. E. B. t. 963.

HAB. Waste places at Teignmouth. Fl. July. ☉

Stem 2 feet high, erect, branched; flowers yellow; pods erect, but not pressed to the stalk.

### 14. ERYSIMUM.

1. *E. cheiranthoides*, (*Treacle Hedge-Mustard*,) leaves lanceolate, entire, or slightly toothed, with 3 parted stellate hairs; peduncles spreading; stigma undivided; pods sub-erect. E. B. t. 924. Huds. Fl. Ang. 287. (*Cheiranthus erisymoides*.)

HAB. Hedges near Totness, Paignton, Teignmouth, Moreton, North Bovey. Fl. July. ☉

Stem 1-2 feet high, branched above; flowers small, yellow.

2. *E. alliaria*, (*Jack-by-the-hedge*,) leaves cordate, petiolate, toothed. E. B. t. 795. Decand. Fl. Gal. 4125. (*Hesperis alliaria*.)

HAB. Hedges, &c. common. Fl. May. ♂ or ♀

Stem 2-3 feet high; leaves large, veined; flowers white. Smells like garlic.

## 15. CHEIRANTHUS.

1. *Ch. fruticosus*, (*Wall-flower*,) stem shrubby, branched, angular; leaves lanceolate, acute, hairy beneath; pubescence simple, pressed close. E. B. t. 1934. Huds. Fl. Ang. (*Ch. Cheiri*.)

HAB. Old Walls, frequent. Exeter, Chudleigh, Totness Bridge, Ashburton, &c. Fl. May, June. ♀

Bushy; flowers yellow, odoriferous.

## 16. MATTHIOLA.

1. *M. sinuatus*, (*prickly-podded Gilliflower*,) leaves cottony, lower ones sinuate, upper ones entire; pods compressed, prickly. Hort. Kew. 119. E. B. t. 462. Huds. Fl. Ang. 288. (*Cheiranthus tricuspidatus*.)

HAB. Rocks adjoining Braunton Burroughs, Dr. Wavell. Fl. August. ♂

Whole plant cottony, hairs stellate, entangled; stem branched; leaves blunt; flowers flesh-colour, or violet; pod long, cottony; seeds margined.

## 17. BRASSICA.

1. *Br. napus*, (*wild Rape*,) root fusiform, caulescent; leaves smooth, lower ones lyrate, toothed; upper ones cordate, lanceolate, amplexicaul. E. B. t. 2146.

HAB. Tillage fields, occasionally. Moreton, Ilington. Fl. May.

1-2 feet high; leaves glaucous, especially beneath, upper ones entire; flowers yellow; pods torulose.

2. *Br. rapa*, (*Turnip*,) root caulescent, orbicular, depressed, fleshy; root leaves lyrate, scabrous; stem leaves entire. E. B. t. 2176.

HAB. Borders of fields, &c. Fl. April. ♂

Upper leaves rather glaucous, embracing the stem; flowers yellow, rather large.

3. *Br. oleracea*, (*sea Cabbage*,) root caulescent, rounded, fleshy; leaves glabrous, glaucous, waved, lobed. E. B. t. 637.

HAB. Cliffs at Babbicombe and Marychurch, Rev. J. Jervis and Rev. A. Neck. Fl. May, June. ♂

Leaves thick, fleshy; flowers large, yellow. Origin of the common cultivated *Cabbage*.

4. *B. campestris*, (*field Cabbage*,) root and stem slender; leaves cordate, acuminate, amplexicaul; lower ones lyrate, toothed, sub-hispid. E. B. t. 2234.

HAB. Hedges and fields at Moreton and North Bovey. Fl. July. ☉

Stem erect, leafy, hispid below; leaves glaucous; flowers yellow; pod erect,

cylindrical, or obscurely quadrangular, veiny, the beak awl-shape, striate, square at the base.

## 18. SINAPIS.

1. *S. arvensis*, (*Charlock*,) leaves ovate, sub-lyrate; pods many-angled, turgid, knotty, longer than their two-edged beak. E. B. t. 1748.

HAB. Tillage fields, common. Fl. May, June. ☉

Stem more or less branched, striate, leafy, rough, with recurved bristles; leaves petiolate, rough, unequally toothed; flowers yellow.

2. *S. alba*, (*white Mustard*,) leaves pinnatifid; pods hispid, rugged, shorter than their two-edged beak. E. B. t. 1677.

HAB. In the same situations as the last, frequent. Fl. June. ☉

Leaves rough, jagged, and toothed, lower ones deeply pinnatifid, upper ones more lyrate; flowers large, yellow. The flat rough beak longer than the pod itself, well distinguishes this species.

3. *S. nigra*, (*common Mustard*,) upper leaves linear lanceolate, glabrous, entire; style short, subulate; pods appressed, glabrous, 4-sided. E. B. t. 969.

HAB. In the same situation with the two former, common. Fl. June. ☉

Lower leaves large, rough, lyrate; flowers yellow; pod crowned with a persistent style.

4. *S. tenuifolium*, (*fine-leaved Mustard*,) stem glabrous; leaves lanceolate, pinnatifid or bi-pinnatifid, lobes very acute; peduncles spreading; pods linear, glabrous, erect, shortly beaked. Brown in Hort. Kew. E. B. t. 525. (*Sisymbrium tenuifolium*.) Huds. Fl. Ang. 290. (*Brassica muralis*.)

HAB. Old walls about Exeter. Fl. July—September. ☿

Stem branched, leafy, 12-18 inches high; leaves smooth; flowers large, pale-yellow; smell very disagreeable. *Diplotaxis* of Decandolle Syst. Veg. 2. 632.

## 19. RAPHANUS.

1. *R. raphanistrum*, (*wild Radish*,) leaves simply lyrate; pods 1-celled, jointed, striate. Brown in Hort. Kew. E. B. t. 856. Gärtner Fr. et Sem. 2. 30. (*Raphanistrum lamp-sana*.)

HAB. Corn fields, occasionally. Fl. June, July. ☉

Stem 12-18 inches high; leaves rough, petiolate; flowers large, yellow, white or purplish, with darker veins.

2. *R. maritimus*, (*Sea Radish*,) leaves interruptedly lyrate; pods 1-celled, jointed, striate. E. B. t. 1643. Fl. Brit. 723. (*R. raphanistrum*,  $\gamma$ .) Ray Syn. 296. 3.

HAB. Along the sea coast. Fl. June, July. ☉

Stem 3-4 feet high; leaves rough, lobes toothed; flowers large, yellow, slightly veined; root resembles *Horse-radish*.



## XVI. MONADELPHIA.

### I. PENTANDRIA.

#### 1. ERODIUM.

1. *E. cicutarium*, (*Hemlock-leaved Crane's-bill*,) stem prostrate, hairy; leaves pinnate; leaflets sessile, pinnatifid, and cut; peduncles many-flowered; petals longer than the cal. L'Heretier in Hort. Kew. 2. 414. E. B. t. 1768. With. Bot. Arr. (*Geranium cicutarium*.)

HAB. In waste sandy places, frequent. Topaham. Lympstone. Exmouth Warren. Dawlish. Teignmouth, and along the coast. Moreton. Braunton Burroughs, Dr. Wavell. Fl. June—August. ☉

Whole plant hairy; stems many, branched; flowers in small umbels, purplish or occasionally white.

2. *E. moschatum*, (*musky Crane's-bill*,) stem prostrate, hairy; leaves pinnate, shortly petioled, oblong, deeply toothed; peduncles many-flowered; petals as long as the cal. Hort. Kew. 414. E. B. t. 902. With. Bot. Arr. (*Geranium moschatum*.)

HAB. Along the southern coast. Dawlish, Teignmouth, Torquay. Fl. June, July. ☉

Whole plant hairy; hairs, especially those of the calyx, viscous; peduncles short, 4-10 flowered; flowers purple. The musky smell is the most obvious distinction.

3. *E. maritimum*, (*sea Crane's-bill*,) stem depressed; leaves cordate, deeply crenate; peduncles 2-4-flowered. Hort. Kew. 2. 416. E. B. t. 646. With. Bot. Arr. (*Geranium maritimum*.)

HAB. Along the southern coast, frequent. Teignmouth, Torquay, &c. Fl. May—September. ☿

Stem branched; petioles long; leaves hispid; flowers flesh-colour; beak glabrous.

### II. DECANDRIA.

#### 2. GERANIUM.

τ. Perennial; peduncles 2-flowered.

1. *G. phæum*, (*dark Crane's-bill*,) stem erect; cal. slightly awned; pet. waved; caps. keeled, hispid below, wrinkled above. E. B. t. 322.

HAB. Hedges of a field by Beckey Fall, Miss Filmore. In a hedge at Ponsworthy, near Widdecombe-in-the-Moor, hardly wild, Rev. A. Neck. Fl. May, June. ☺

2 feet high, branched dichotomously; leaves 3-7 lobed; lobes acute, cut, serrate; petals dingy, blackish-purple, claw white.

ττ. Annual; peduncles 2-flowered.

2. *G. lucidum*, (*shining Crane's-bill*,) leaves rounded, 5-lobed; cal. pyramidal, the angles raised and wrinkled; caps. furrowed. E. B. t. 75.

HAB. Hedges, walls, and waste places, common. Fl. May—August. ☺

Whole plant shining and glabrous; stems spreading, brittle, swelling at the base, joints red; flowers small, rose-colour, rarely white.

3. *G. Robertianum*, (*Herb-Robert*,) leaves ternate and quinate; leaves pinnatifid, segments mucronate; cal. angular, hairy; caps. wrinkled. E. B. t. 1486.

HAB. Hedges and waste places, common. Fl. May—October. ☺

Stem branched, spreading, brittle, red; flowers small, rose-red, occasionally white.

4. *G. molle*, (*soft Crane's-bill*,) leaves rounded or reniform, lobed and cut, downy; pet. length of cal. notched; caps. transversely wrinkled, smooth; seeds smooth. E. B. t. 778.

HAB. Hedges, pastures, and waste places, common. Fl. April—August. ☺

Stems spreading, hairy; leaves alternate, soft and downy; flowers small, purple, rarely white.

5. *G. rotundifolium*, (*round-leaved Crane's-bill*,) leaves rounded or reniform, downy; pet. length of cal. entire; caps. not wrinkled, hairy; seeds punctate. E. B. t. 157.

HAB. About Plymouth, frequent. Near Dartmouth Castle, Rev. R. P. Welland. Fl. May, June. ☺

Distinguished from the former by the entire petals, smooth capsules, and dotted seeds.

6. *G. pusillum*, (*small-flowered Crane's-bill*,) leaves rounded or reniform, 5-7 lobed; lobes trifid; pet. notched; anthers 5; caps. not wrinkled, keeled, downy; seeds smooth. E. B. t. 385. Huds. Fl. Ang. 303. (*G. molle* β.) With. Bot. Arr. 603. (*G. malvæfolium*.)

HAB. Hedges, frequent. Fl. June—September. ☺

Stem weak, prostrate; leaves deeply lobed; flowers small, blueish-purple; caps. with appressed hairs.

7. *G. dissectum*, (*jagged-leaved Crane's-bill*,) leaves 5-parted; lobes 3, or many cleft, linear; peduncles shorter than the

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leaves; cal. awned; pet. notched, length of cal.; caps. not wrinkled, hairy; seeds punctate. E. B. t. 753.

HAB. Hedges and pastures, common. Fl. May, June. ☉

The much divided leaves and short peduncles, which make the flowers appear as if sitting among the leaves, characterize this species.

8. *G. columbinum*, (*long-stalked Crane's-bill*,) leaves 5-parted, lobes many, cut; segments linear; peduncles longer than the leaves; cal. awned; pet. notched, length of cal.; caps. not wrinkled, glabrous; seeds punctate. E. B. t. 259.

HAB. Dry pastures and hedges, not unfrequent. Chudleigh, Ilington, &c. Fl. June, July. ☉

Stems very slender, spreading; petals rose-red; capsules quite glabrous; seeds reticulated, dotted.

3. MALVA.

1. *M. sylvestris*, (*common Mallow*,) stem erect, herbaceous; leaves 7-lobed, lobes acute; petioles and peduncles hairy. E. B. t. 671.

HAB. Hedges and waste places, common. Fl. May—August. 24

Stem branched: flowers large, purple, with deeper coloured veins, 3 or 4 together, axillary; pet. obcordate.

2. *M. rotundifolia*, (*dwarf Mallow*,) stem prostrate; leaves roundish, cordate, slightly 5-lobed; peduncles declining. E. B. t. 1092 and 241. (*M. pusilla*.) Huds. Fl. Ang. 307. (*M. parviflora*.)

HAB. Waste places, not unfrequent. Chudleigh, Exmouth, North Bovey, Ilington, Marychurch, &c. Fl. June—August. ☉

Stems many from the same root, mostly simple; flowers small, roundish, flesh-colour.

3. *M. moschata*, (*musk Mallow*,) stem erect; root leaves reniform, cut; stem leaves 5-parted, pinnately multifid; cal. hairy, outer sepals linear. E. B. t. 754.

HAB. Meadows and hedges, frequent. Fl. July, August. 24

Stem 2-3 feet high; flowers large, rose-colour, 1-2 together from the axils of the upper leaves; has a faintly musky smell.

4. LAVATERA.

1. *L. arborea*, (*tree Mallow*,) stem erect; leaves with about 7 angles, downy, plaited; peduncles axillary, clustered, 1-flowered. E. B. t. 1841.

HAB. Teignmouth. Torbay, on the Thatcher, Rev. A. Neck. Plymouth. Coast of Devon, Huds. and With. Fl. July—October. ♂

Stem 3 to 6 or 8 feet high; petioles long; flowers numerous, purplish red, with dark blotches at the base.

## XVII. DIADELPHIA.

## I. HEXANDRIA.

## 1. FUMARIA.

τ. Caps. spherical, indehiscent, 1-seeded. (*Fumaria*.)

1. *F. officinalis*, (*common Fumitory*,) stem branched, spreading; leaves bi- or tripinnate; leaflets wedge-lanceolate. E. B. t. 589.

HAB. Hedges, tillage fields, &c. frequent. Fl. May—August. ☉

Plant glaucous; spikes of flowers opposite the leaves; cor. rose-colour, deeper at the ends.

*F. parviflora*, (*small-flowered Fumitory*,) E. B. t. 590. observed by Mr. Anderson in fields near Teignmouth, is only a var. of the above. The only difference is the linear segments of the leaflets.

2. *F. capreolata*, (*ramping Fumitory*,) stem with tendrils, climbing; leaves triternate; leaflets obovate, wedge-shaped, lobed and cut. E. B. t. 943. Huds. Fl. Ang. 309. (*F. officinalis*. β.)

HAB. Hedges, frequent. Ilington, Teignmouth, Tavistock, North Bovey, Barnstaple, &c. Fl. June—September. ☉

Differs from *F. officinalis* in being more glaucous; in the leaflets being much broader and more regularly ternate, (their petioles acting as tendrils,) and in the paler and larger flowers.

ττ. Caps. lengthened, dehiscent; 2 or more seeded. (*Corydalis*.)

3. *F. claviculata*, (*climbing Fumitory*,) stem climbing, branched; petioles ending in tendrils; leaflets 3-5 parted, their lobes ovate, acute. E. B. t. 103. Decandolle Fl. Gall. 4100. (*Corydalis claviculata*.)

HAB. Hedges at Ilington. North Bovey. Manaton. Amongst the rocks of Lustleigh Cleve; and Wistman's Wood, Dartmoor. Near Mamhead. About Peter Tavy, Mary Tavy, &c. Fl. June—August. ☉

Whole plant very slender and delicate; spikes with a few small pale-yellow, or whitish flowers.

4. *F. lutea*, (*yellow Fumitory*,) stem angular; bractææ minute, a very short round spur. E. B. t. 588. Decandolle Fl. Gall. (*Corydalis*.)

HAB. Near Totness. In a hedge near Exeter on the Moreton Road, Rev.

W. Hincks and Mr. Jacob, hardly wild. About Bere Ferrers and Bere Alston, not uncommon. Fl. May. 2

Stem erect, branched, smooth; leaves triternate; leaflets wedge-shaped, trifid; spike terminal; flowers yellow. Scarcely an indigenous species.

## II. OCTANDRIA.

### 2. POLYGALA.

1. *P. vulgaris*, (*Milkwort*,) stem procumbent; leaves linear lanceolate; flowers in a terminal raceme; cal. wings nerved, longer than the cor. E. B. t. 76.

HAB. Dry hilly pastures, common. Fl. June, July, 2

Stem 4-10 inches, branched at the base; cal. persistent, inclosing the fruit; cor. crested at the end, blue, purple, or white.

## III. DECANDRIA.

### 3. GENISTA.

1. *G. scoparia*, (*common Broom*,) branches unarmed, angular; leaves oblong, ternate, or solitary; peduncles short; flowers axillary; legume hairy on the margin. E. B. t. 1339. (*Spartium scoparium*.)

HAB. Dry hills, copses, &c. abundant. Fl. May, June. 2

3-6 or 8 feet high, with long, straight, green branches, bright yellow flowers, and large compressed dark-brown legumes.

2. *G. Anglica*, (*needle Furze*,) stem declined, spinous; spines simple and compound; flowering branches unarmed; flowers axillary, sub-racemose; legumes glabrous. E. B. t. 132.

HAB. Bogs at Widdecombe in the Moor. Tallaton Common, Rev. Mr. Welland, jun. Near Maiden Down, very common, Dr. Wavell. Bovey Heathfield, Hon. and Rev. W. Annesley. Fl. May, June. 2

Stem branched, spinous; leaves alternate, ovate, smooth; flowers axillary; legume smooth, turgid.

### 4. ULEX.

1. *U. Europæus*, (*Furze*,) branchlets erect; bractæ ovate, lax; cal. teeth minute, connivent. E. B. t. 742. Ray Syn. 475.1. (*Genista spinosa vulgaris*.)

HAB. Heaths, downs, hedges, &c. common. Fl. great part of the year, chiefly in the spring. 2

This is a larger, darker green shrub than the next, and grows to the height of 4-5 feet or more, in a looser and more straggling manner. It is the sort cultivated by farmers in some parts of the county for fuel, under the denomination of French furze.

2. *U. nanus*, (*dwarf Furze*,) branches declining; bractæ minute, close pressed; cal. teeth lanceolate, spreading. E.



B. t. 743. With. Bot. Arr. 626. (U. *Europæus*, var. 2.) Ray Syn. 475. 2. (*Genista spinosa minor*.)

HAB. On exposed downs, common. Fl. great part of the year, chiefly in autumn.  $\frac{1}{2}$

Smaller in all its parts than the last, and growing in a very compact, rounded manner. Dr. Smith, from whom the specific character is copied, says, the flowers afford *certain* specific characters as detailed above. Ray and others had also previously kept them distinct. After all, perhaps, it is merely a variety, though a tolerably permanent one, depending on soil, exposure, biting of cattle, &c. Farmers certainly recognize a difference.

### 5. ONONIS.

1. *O. arvensis*, (*Rest-harrow*,) stem hairy, branches becoming spinous; lower leaves ternate, upper ones simple, entire at the base. E. B. t. 682. With. Bot. Arr. 627. (*O. arv.* and *spinosa*.)

HAB. Fields, hedges, &c. common. Fl. June—August.  $\frac{1}{4}$

It is more or less erect or procumbent, and more or less spiny, or quite unarmed; leaves ovate, or wedge-shaped; flowers rose-colour. *O. spinosa* and *O. repens*, found along the sea-coast, are only varieties.

### 6. ANTHYLLIS.

1. *A. vulneraria*, (*kidney Vetch*,) leaves pinnated, unequal; flowers in a double terminal head. E. B. t. 104.

HAB. Cliffs along the southern coast. Lymptone, on the beach near Courtland Lodge. Teignmouth; Torquay. Fl. July, August.  $\frac{1}{4}$

Stem ascending, downy; leaflets 5-9, lanceolate, entire, hairy beneath, terminal one largest; bractæ palmate; flowers in crowded heads; cal. hairy; cor. yellow.

### 7. OROBUS.

1. *O. tuberosus*, (*tuberous Peasling*,) stem simple, winged; leaves pinnate; leaflets 2-4 pair, lanceolate, glaucous beneath; stipules half arrow-shaped. E. B. t. 1153.

HAB. Woods, heaths, &c. frequent. Fl. May, June.  $\frac{1}{4}$

Root tuberous; stem erect when in flower; flowers in long-stalked, axillary clusters, purple and veined; legume long, pendulous, cylindrical, black, many seeded.

### 8. LATHYRUS.

1. *L. aphaca*, (*leafless Vetchling*,) leaves 0; tendrils simple; stipules large, heart arrow-shaped; peduncles 1-flowered. E. B. t. 1167.

HAB. Cliffs near Sidmouth, D. Turner and Sowerby. Holwell Tor, near Ilington, Miss Filmore. Fl. June—August. ☉

Stem branched at the base, trailing; stipules ribbed, glaucous; peduncles bracteated; flowers small, greenish-yellow.

2. *L. nissolia*, (*grass Vetch*,) leaves simple, without tendrils, lanceolate; stipules awl-shaped; peduncles 1-2 flowered. E. B. t. 112.

HAB. About Teignmouth. Exmouth, abundant. Fl. May. ☉

Leaves sessile, grass-like; stipules in hairs at the base of the leaves; peduncles axillary; flowers crimson; legume linear.

3. *L. pratensis*, (*yellow Vetchling*,) petioles tendrilled with 2 lanceolate, 3-nerved leaflets; stipules arrow-shaped, as large as the leaflets; peduncles many-flowered. E. B. t. 670.

HAB. Woods and pastures, common. Fl. July, August. ♀

Stem branched, acutely angled, climbing; peduncles much longer than the leaves; cal. hairy; cor. yellow; legume black, glabrous.

4. *L. sylvestris*, (*narrow-leaved Everlasting-Pea*,) stem winged; petioles with 2 ensiform leaflets, tendrilled; peduncles 4-5 flowered. E. B. t. 805.

HAB. Cliffs at Teignmouth and Shaldon, abundant. Cliff under West Down Beacon, Rev. J. Jarvis. Near Budleigh, Miss Filmore. Cliffs beyond Seaton, Mr. Jacob. Sandridge, Cliffs near Torquay and Berry Head, Rev. A. Neck. Lime Rocks on the Newton road, near Bridge Town. Fl. July, August. ♀

Stem 5-6 feet, climbing or trailing, broadly winged; tendrils 2-3 cut; stipules awl-shaped, entire; cal. glabrous; flowers large, greenish with purple veins.

## 9. VICIA.

1. *V. sylvatica*, (*wood Vetch*,) leaflets elliptical, oblong, mucronate; stipules lunate, deeply toothed at the base; peduncles many flowered, longer than the leaves. E. B. t. 79.

HAB. Limestone rocks near Kingsteignton. Hedges at Watermouth near Ilfracombe. Cockington Wood, and near Marychurch, Rev. A. Neck. Fl. July, August. ♀

Stem branched, 5 or 6 feet high, or even much longer, climbing, with branching tendrils; leaflets from 6-10 pair; flowers white, purple, or blue, with flesh-colour veins.

2. *V. cracca*, (*tufted Vetch*,) leaflets lanceolate, slightly hairy; stipules half arrow-shaped, sub-entire; peduncles longer than the leaves, many flowered; flowers imbricate. E. B. t. 1168.

HAB. Woods and hedges, common. Fl. July, August. ♀

2-3 feet, or more in height, climbing; leaflets 10-12 pair, with branched tendrils terminating; flowers numerous, drooping, fine blueish-purple.

3. *V. sativa*, (*common Vetch*,) lower leaves retuse; stipules toothed, spotted; flowers sessile, sub-binate; legume sub-erect; seeds smooth. E. B. t. 334.

HAB. Tillage fields, &c. common. May, June. ☉

A foot or more high; leaflets vary much in width and obtuseness, and also in number, from 2 to 6, or more hairs; tendrils 2 or 3 cut; flowers large, reddish-purple; legumes more or less pubescent, cultivated as fodder for cattle. *V. lathyroides*, a. Huds. Fl. Ang. 318. and *V. angustifolia*, Sibthorpe Fl. Ox. 224. are small narrow-leaved varieties of this.

4. *V. lathyroides*, (*spring Vetch*,) leaflets 2-3 paired; lower ones retuse; stipules entire; flowers sessile, solitary; legumes glabrous, erect; seeds tuberculate. E. B. t. 30.

HAB. In the road between Marychurch and Shaldon. Banks of the Erme near Ivybridge. North Bovey, and Ilsington. Fl. April—June. ☉

Smaller than the last generally: leaflets fewer, tendrils simple, or none; stipules without the dark impressed spot of the last species; flowers smaller.

5. *V. sepium*, (*bush Vetch*,) leaves many paired; leaflets ovate, obtuse; outer ones gradually smaller; flowers mostly in fours, subpetiolate; legumes erect, glabrous. E. B. t. 79.

HAB. Woods and hedges, common. Fl. May, June. ♀

2 or more feet high, leaflets large; one or two of the four flowers growing together, often imperfect; cor. purplish-blue.

6. *V. bithynica*, (*rough-podded Vetch*,) leaflets 2-4 paired, ovate, lanceolate; stipules toothed; flowers peduncled, solitary, or in pairs; legume erect, rough. E. B.

HAB. Cliffs along the southern coast. Lympstone, Teignmouth, Shaldon. Fl. July, August. ♀

Stipules large; teeth unequal, acute, divaricate; flower standard reddish-purple; wings yellowish.

#### 10. ERVUM.

1. *E. tetraspermum*, (*smooth Tare*,) leaflets linear, oblong, obtuse; peduncles 2-flowered; legumes 4-seeded, glabrous. E. B. t. 1223.

HAB. Hedges, frequent. Fl. June. ☉

Stem weak, much branched; leaflets about 5 pair, sub-alternate; flowers axillary, pale-purple, standard streaked.

2. *E. hirsutum*, (*hairy Tare*,) leaflets linear, oblong, truncate; peduncles many flowered; legumes 2-seeded, hairy. E. B. t. 970.

HAB. Corn-fields, hedges, &c. frequent. Fl. June. ☉

Larger and stouter than the last, the leaflets more numerous.

#### 11. ORNITHOPUS.

1. *O. perpusillus*, (*Bird's-foot*,) leaves pinnate, with 6-9 pairs of leaflets, and a terminal one; flowers capitate, bracteated; legumes curved upwards. E. B. t. 369.

HAB. Gravelly and sandy downs and hedges, not unfrequent. Milbourn Down, near Newton Abbot. Canonteign near Christowe, North Bovey, Manaton, Ilington, Woodbury Hill, Blackhill. Fl. May, June. ☉

2-6 inches high, much branched, and spreading at the base; leaflets oval; flowers white with red lines; legumes 4 or 5, long, curved, jointed, resembling a bird's foot. Withering, Bot. Arr. 640, mentions a variety growing at Sidmouth with entirely yellow flowers and a dark purple blotch on each leaflet.

## 12. HIPPOCREPIS.

2. *H. comosa*, (*tufted Horse-shoe Vetch*,) legumes 5-8 clustered, peduncled, curved, scabrous, sinuated on each margin. E. B. t. 31.

HAB. Rocks about Babbicombe and Torquay, Rev. J. Jervis and Rev. A. Neck. Fl. May—August.

Stem 6-8 inches high, branched, and woody at the base; leaflets reverse-oval, 4-6 pair, with an odd one; peduncles long; flowers yellow.

## 13. TRIFOLIUM.

τ. Flowers racemose. (*Melilotus*.)

1. *Tr. officinale*, (*common Melilot*,) stem erect; leaflets obovate, oblong, toothed; flowers racemose; legumes wrinkled, acute, pendent, 2-seeded. E. B. t. 1340. Decand. Fl. Gall. (*Melilotus*.)

HAB. Fields and hedges, occasionally. Chudleigh, Exminster, Dawlish, Totness. Fl. June, July. ☉

2-3 feet high; flowers yellow, drooping, secund in peduncled axillary racemes.

ττ. Flowers more or less capitate. (*Trifolium*.)

a. Legumes naked, many-seeded.

2. *Tr. repens*, (*white Trefoil*,) stem creeping; leaflets obcordate, serrulate; heads umbellate; cal. teeth unequal; legumes 4-seeded. E. B. t. 1769.

HAB. Fields, common. Fl. May—September. ♀

Leaflets with a dark spot at the base and a white band over it; flowers white, in dense umbels, pendulous in decay; legume, oblong, smooth, invested with the brown persistent cor. The *Dutch Clover* of agriculturists; forms a useful pasture. *Tr. hybridum* of Withering, 647, is a variety of this, growing in richer and moister soils.

3. *Tr. suffocatum*, (*suffocated Trefoil*,) heads lateral and terminal, roundish, sessile; cal. teeth lanceolate, acute, recurved, longer than the cor.; legume 2-seeded. E. B. t. 1049.

HAB. Teignmouth Den. Sands at Torquay. Fl. June, July. ☉

Stem short, tortuous; leaflets obovate, slightly toothed on long petioles; cor. white. The whole plant, except the leaves, buried in the sand.

*b.* Legumes covered, 1-seeded.

1. Cor. whitish or reddish ; standard deciduous.

4. *Tr. subterraneum*, (*underground Trefoil*,) involucre central, reflected, stiff, stellate, covering the fruit ; heads 4-5 flowered, woolly. E. B. t. 1048.

HAB. Marychurch. Chapel Hill and at Ellacombe, near Torquay. Banks of the Exe, near Powderham. Fl. May—August. ☉

Stems many, prostrate ; leaves hairy ; stipules in pairs, ovate, lanceolate ; peduncles in fruit deflected into the ground ; cal. tubular, with soft hairs and setaceous sub-equal teeth ; cor. white, the tube very long.

5. *Tr. pratense*, (*common red Clover*,) stem ascending ; leaflets ovate, sub-entire ; stipules awned ; heads dense, ovate ; cal. the lower tooth shorter than the tube of the cor. ; cor. monopetalous, unequal. E. B. t. 1770.

HAB. Fields, common. May—September. ♀

Stem slightly branched ; leaflets frequently with a white lunate spot ; stipules ovate, united ; heads terminal, sessile, of many purple flowers ; cal. with four of the teeth equal, and one (the lowermost) longer than the rest. Commonly cultivated for hay, &c. ; but the large variety, commonly sown, seldom remains in the ground longer than two years.

6. *Tr. medium*, (*zigzag Trefoil*,) stems branched, flexuose ; leaflets elliptical, finely serrate ; stipules awl-shaped ; heads open, subglobose, solitary ; cal. the lower tooth as long as the tube of the cor. ; cor. monopetalous, nearly equal. E. B. t. 190. Hook. Fl. Scot. 218. Huds. Fl. Ang. 326. (*Tr. alpestre*.)

HAB. Moist shady pastures, occasionally. About Chudleigh. Fl. July. ♀

The long and more narrow leaves, the more narrow, awnless stipules, the larger and laxer heads of flowers, and their deeper colour ; the teeth of the cal. the lower of which is the length of the tube of the cor., the rest gradually shorter,—are the chief points of difference between this and the last species.

7. *Tr. arvense*, (*Hare's-foot Trefoil*,) leaflets obovate, lanceolate : heads villose, sub-cylindrical ; cal. teeth setaceous, longer than the cor. E. B. t. 944.

HAB. Near Exmouth, Rev. J. Jervis. Teignmouth, Rev. A. Neck. Fields at Ingsdon, near Ilsington. Fl. July, August. ☉

Stem 6-12 inches high, erect, branched ; flowers very small, flesh-colour. Characterized by the long, cylindrical, soft, villose heads or spikes.

8. *Tr. scabrum*, (*rough Trefoil*,) leaflets obcordate, serrulate ; heads terminal and axillary, sessile, ovate ; cal. teeth unequal, narrow, lanceolate, rigid, at length recurved. E. B. t. 903.



HAB. Sands at Exmouth. Near Marychurch, Rev. A. Neck. Fl. May, June. ☉

Plant hairy, 6-8 inches, spreading, procumbent; flowers small, white.

9. *Tr. glomeratum*, (*round-headed Trefoil*,) leaflets obcordate, toothed; heads terminal and axillary, sessile, spherical; cal. teeth unequal, broad, at length recurved. E. B. t. 1063.

HAB. Exmouth Sands, Rev. W. Hincks. Fl. May, June. ☉

Habit and size of the last, but differs in being glabrous, in the leaves being strongly toothed, the heads round, the cal. segments broad, and the flowers reddish.

10. *T. striatum*, (*soft-knotted Trefoil*,) leaflets obcordate, sub-entire, pubescent; heads terminal and axillary, ovate, solitary, sub-sessile; cal. striate, hairy, with straight unequal teeth. E. B. t. 1843.

HAB. Exmouth Sands, Mr. Jacob. Kingskerswell, Rev. A. Neck. Fields at Knighton Beaumont, near Ingdon. Fl. June. ☉

Pubescent, more or less procumbent; small reddish flowers and deeply furrowed calyx.

11. *Tr. fragiferum*, (*strawberry-headed Trefoil*,) stem creeping; leaflets obcordate, serrate; heads roundish on long peduncles; cal. when in fruit inflated, membranaceous, pubescent; teeth setaceous, 2 recurved. E. B. t. 1050.

HAB. Lanes about Sidmouth. Mr. Hull's embankment, near Exmouth. Goodrington Marsh and Kingskerswell Cross, Rev. A. Neck. Fl. July, August. ☿

Fl. small, purplish-red; cal. veined, and often coloured, becoming remarkably large after flowering.

2. Cor. yellow; standard persistent, scarious, investing the fruit.

12. *Tr. procumbens*, (*Hop Trefoil*,) stems procumbent, leaflets obovate; spikes ovate, imbricate; cor. standard deflexed, sulcate. E. B. t. 945. Huds. Fl. Ang. 328. (*Tr. agrarium*.)

HAB. Pastures, frequent. Fl. June. ☉

Stems diffused; spikes axillary, peduncled.

13. *Tr. minus*, (*lesser Hop Trefoil*,) stems procumbent; petiole lengthened upwards; leaflets obovate; spikes capitate, hemispherical; peduncles stiff; cor. standard smoothish. E. B. t. 1256. Huds. Fl. Ang. 328. (*Tr. procumbens*.)

HAB. Pastures, frequent. Fl. June, July. ☉

This species is distinguished, according to Dr. Smith, from the two immediately preceding and following, by the central leaflet being elevated on a much more considerable footstalk; flowers small, from 10-15 on a head.

14. *Tr. filiforme*, (*slender yellow Trefoil*,) stems procumbent; leaflets sub-sessile; peduncles capillary, flexuose; heads lax, of a few flowers; standard smooth. E. B. t. 1257.

HAB. Pastures, common. Fl. June. ☉

Spike 3-8 flowered; cor. standard not deflexed.

#### 14. LOTUS.

1. *L. corniculatus*, (*Bird's-foot Trefoil*,) stems decumbent; heads depressed, many-flowered; legumes cylindrical, patent. E. B. t. 2090.

β. *major*, stem larger, nearly erect; heads of flowers larger. E. B. t. 2091. Fl. Gall. 3939. (*L. rectus*.) Fl. Brit. 794. (*L. corniculatus*, γ. and δ.)

HAB. Fields and hedges, common. Fl. June—August.

Varies much in the size and direction of the stems, and the greater or less hairiness of the leaves, which are obovate and entire; flowers yellow; legumes long, and spreading horizontally.

2. *L. diffusus* (*slender Bird's-foot Trefoil*,) stem decumbent, much branched; peduncles 1-2 flowered; legumes cylindrical, stiff, linear, very slender. E. B. t. 925.

HAB. On a bank between the Clay Pits at Hackney, near Kingsteignton.

On a bank by the road from Lindridge to Bishopsteignton, about a quarter of a mile from the latter, Rev. Dr. Becke. Fl. June. 24

Leaflets ovate, acute; peduncles axillary.

#### 15. MEDICAGO.

1. *M. lupulina*, (*black Medick*,) leaflets obovate; stipules entire; spikes oval; legumes reniform. E. B. t. 971.

HAB. Fields, common. Fl. May—August.

Stems spreading; leaflets ovate, ternate, serrate towards the end; flowers small, yellow; legumes rough, black. Cultivated occasionally.

2. *M. maculata*, (*heart Medick*,) leaflets obcordate, toothed, glabrous, with a central spot; stipules toothed; peduncles 2-4 flowered; legumes spiral, compressed on both sides, with subulate, curved prickles. Gray Nat. Arr. 2. 605. E. B. Fl. Brit. 2. 797. (*M. polymorpha*.) With. Bot. Arr. 660. (*M. arabica*.)

HAB. Chudleigh. Torquay and along southern coast. Fl. June, July. ☉

Stems spreading, with long whitish hairs; leaflets ternate; peduncles from the bosom of the leaves; flowers yellow, standard largest.

The *Lucern*, (*M. sativa*, E. B. t. 1749,) with an erect stem, racemed peduncles, and spirally twisted smooth legumes, is not an indigenous plant. *M. falcata*, (E. B. t. 1016,) which is British, though we have not found it in Devon, Dr. Smith thinks may be the true wild state of *M. sativa*, which differs chiefly in the more spiral pod. The *Saintfoin*, (*Hedysarum onobrychis*) we likewise omit, as being not indigenous in this county, though occasionally cultivated.

## XVIII. POLYADELPHIA.

### I. POLYANDRIA.

#### 1. HYPERICUM.

τ. Cal. segments entire at the margin.

1. *H. androsæmum*, (*Tutsan*,) stem shrubby, compressed; leaves ovate, sessile; sepals unequal; fruit a berry. E. B. t. 1225. Decan. Fl. Gall. 4570. (*Androsæmum vulgare*.)

HAB. Woods and hedges, occasionally. Chudleigh, Lympstone, Ilington, Tiverton, &c. Fl. July. 2

About 2 feet high, with large leaves; cymes of largish yellow flowers and black berries, when ripe,—they are red at first.

2. *H. quadrangulum*, (*St. Peter's Wort*,) stem quadrangular; leaves ovate, with pellucid dots; sepals lanceolate. E. B. t. 370.

HAB. Hedges, &c. common. Fl. July. 2

Stem somewhat branched; leaves sitting in pairs; panicles terminal; flowers yellow, frequently with black spots.

3. *H. perforatum*, (*St. John's Wort*,) stem compressed; leaves obtuse, with pellucid dots; sepals lanceolate. E. B. t. 295.

HAB. Woods and hedges, common. Fl. July. 2

2 feet or more high, branched; leaves in decussate pairs, elliptic, oblong, often with small black glands on the edges; the cal. and cor. are also edged in the same way.

4. *H. dubium*, (*imperfurate St. John's Wort*,) stem obsoletely quadrangular; leaves obtuse, without dots; sepals elliptical. E. B. t. 296.

HAB. Field by the Exe side, close to the upper Wear, a little below Cowley Bridge, Rev. W. Hincks and Mr. Jacob. Fl. July, August. 2

The cal. leaves have a more ovate form than in the last species; the cor. is frequently spotted with small black glands.

5. *H. humifusum*, (*trailing St. John's Wort*,) stems prostrate, compressed; leaves oblong, obtuse; flowers terminal, subcymose; sepals obtuse. E. B. t. 1226.

HAB. Hedges, &c. common. Fl. July. 2

Stems many, slender, trailing; cal. and cor. with black glands.

ττ. Cal. segments with glandular serratures.

6. *H. montanum*, (*mountain St. John's Wort*,) stem erect, rounded, smooth; leaves ovate, glabrous; flowers in a panicled corymb; sepals acute. E. B. t. 371.

HAB. Woods and hedges, occasionally. Woods near Chudleigh. Ingsdon, near Ilsington. Milburn Down, near Newton Abbot, and at Marychurch, Rev. A. Neck. Fl. July. 2

About 2 feet high; leaves rather large and distant, more or less perforated, with black glandular dots on the margin; panicle contracted; bractes and cal. distinctly serrated with black glands.

7. *H. hirsutum*, (*hairy St. John's Wort*,) stem erect, rounded, pubescent; leaves ovate, downy beneath. E. B. t. 116.

HAB. Woods about Chudleigh. Cliffs beyond Seaton, Mr. Jacob. Fl. July. 2

Size of the last; leaves more or less pubescent, especially beneath.

8. *H. pulchrum*, (*small erect St. John's Wort*,) stem erect; leaves cordate, glabrous, amplexicaul. E. B. t. 1227.

HAB. Woods and hedges, frequent. Fl. July. 2

1-2 feet high, slender, rigid, branched; flowers in loose panicles; anthers red.

9. *H. elodes*, (*marsh St. John's Wort*,) stem rounded, creeping; leaves roundish, pubescent; cal. glabrous. E. B. t. 109.

HAB. Bogs, common. Dartmoor, Haldon, Woodbury Hill, &c. Fl. July, August. 2

Flowers panicled, terminal, few, pale-yellow. In the foregoing species of this division, the glands of the cal. are black, in this, reddish.

Styles 3, in all the species we have enumerated under this genus.

## XIX. SYNGENESIA.

### I. POLYGAMIA ÆQUALIS.

. τ. Sēmiflosculose.

#### 1. TRAGOPOGON.

1. *Tr. pratensis*, (*yellow Goat's-beard*,) leaves undivided, glabrous, channelled, acuminate; peduncles cylindrical; invol. length of the cor. E. B. t. 434.

HAB. Pastures, not unfrequent. Chudleigh, Ilsington, Totness, banks of the Exe below Exeter, Teignbridge, &c. Fl. June. ♂



1-2 feet high, erect, stiffish; flowers yellow, largish; head of seeds large; pappus elevated on long stalks, very feathery. The flower closes before noon.

## 2. PICRIS.

1. *P. hieracioides*, (*hawkweed Ox-tongue*,) stem scabrous; leaves rough, lanceolate, toothed. E. B. t. 196. Huds. Fl. Ang. 342. (*Hedypnois hieracioides*.)

HAB. Hedges and pastures, frequent. Fl. July, August. ♂

Leaves, radical ones lanceolate, cauline ones embracing the stem, bent back; peduncles with foliaceous scales; flowers yellow, corymbose.

## 3. HELMINTHIA.

1. *H. echinoides*, (*bristly Ox-tongue*,) Gärt. Sem. et Fruc. 2. 368. E. B. t. 1972. (*Picris echinoides*.)

HAB. At one or two spots in Ilslington. Cliffs at Exmouth, Mr. Jacob. Courtland Lodge, near Exmouth, Miss Filmore. Road between Totness and Stoke Gabriel. Fl. July, August. ☉

Stem erect, branched, covered with spinous hairs; leaves, radical ones ovate, scalloped with short rigid hairs and warty protuberances, cauline ones amplexicaul; flowers yellow; peduncles thickened above; cal. leaves awned and fringed with stiff hairs.

## 4. SONCHUS.

1. *S. palustris*, (*marsh Sow Thistle*,) leaves runcinate, sagittate at the base, the edge rough; flowers sub-umbellate; pedun. and invol. with glandular hairs. E. B. t. 935.

HAB. Side of the Exe, near Powderham, Mr. Jacob. Fl. July, August. ♀

Stem 5-8 feet high, or more; leaves pointed, glabrous; flowers yellow, numerous; its habit very distinct from the rest, though pretty closely agreeing in structure.

2. *S. arvensis*, (*corn Sow Thistle*,) leaves runcinate, toothed, ciliate, cordate at the base; flowers sub-umbellate; ped. and invol. hispid. E. B. t. 674.

HAB. Tillage fields, hedges, &c. frequent. Fl. July, August. ♀

Root creeping; stem 3 or 4 feet high; flowers large, yellow; the hairs of the peduncles and calyx terminated in yellow globules.

3. *S. oleraceus*, (*common Sow Thistle*,) leaves oblong, lanceolate, sinuate, amplexicaul; invol. glabrous. E. B. t. 843.

HAB. Waste places, cultivated ground, &c. common. Fl. June—September. ☉

Root fusiform; stem 2 or 3 feet high; leaves glabrous, varying in the form and in the margins; flowers rather small, yellow.



## 5. LEONTODON.

1. *L. taraxacum*, (*Dandelion*,) leaves runcinate, glabrous, toothed; invol. outer scales reflexed. E. B. t. 510. With. Bot. Arr. 679. (*L. officinale*.)

HAB. Hedges, waste places, &c. common. Fl. April—July. 24

Leaves all radical, segments varying in depth; scape with a single large yellow flower. A diuretic.

2. *L. palustre*, (*marsh Dandelion*,) leaves lanceolate, sinuately toothed, subglabrous; invol. outer scales erect, appressed. E. B. t. 553. With. Bot. Arr. 679. (*L. taraxacon*.)

HAB. Near Teignbridge. Sands at Exmouth, Mr. Jacob. Foot of Black Hill, near Woodbury, Rev. J. Jervis. Fl. June, July. 24

Pretty closely resembling the preceding.

## 6. APARGIA.

1. *A. hispida*, (*rough Apargia*,) leaves lanceolate, scabrous, dentate, with forked hairs; scape 1-flowered; invol. hairy; pericarps all with a feathered pappus. Hook. Fl. Scot. 228. E. B. t. 554. (*Hedypnois hispida*.) With. Bot. Arr. 3. 681. (*Leontodon hispidum*.)

HAB. Near Teignbridge. Sands at Exmouth, Mr. Jacob. Fl. July. 24

Leaves all radical, more or less deeply toothed; scape hairy, bearing a largish yellow flower, drooping before expansion.

2. *A. hirta*, (*deficient Apargia*,) leaves lanceolate, scabrous, dentate; scape 1-flowered; invol. subglabrous; pericarps, the outer ones with a scaly pappus. Hook. Fl. Scot. 228. Comp. Fl. Brit. 116. E. B. t. 555. and Fl. Brit. 824. (*Hedypnois hirta*.) With. Bot. Arr. 3. 682. (*Leontodon hirtum*.)

HAB. Pastures, frequent. Fl. July, August. 24

3. *A. autumnalis*, (*autumnal Apargia*,) leaves lanceolate, toothed or pinnatifid, subglabrous; scape branched, scaly above; ped. swelling beneath the invol. Hook. Fl. Scot. 228. E. B. t. 830. and Huds. Fl. Ang. 341. (*Hedypnois autumnalis*.) With. Bot. Arr. 3. 680. (*Leontodon autumnale*.) Gray Nat. Arr. 430. (*Visca autumnalis*.) Lamarck Fl. Fr. 282. (*Sconzonera autumnalis*.)

HAB. Fields, &c. common. Fl. August. 24

The involucre is cylindrical, and tapers gradually into the scape; the flowers yellow, those of the circumference reddish on the outside.

## 7. HIERACIUM.

1. *H. pilosella*, (*mouse-ear Hawkweed*,) leaves ovate, lanceolate, entire, downy beneath; scyons creeping; scape 1-flowered. E. B. t. 1093.

HAB. Dry banks and hedges, common. Fl. July. ♀

The creeping scyons distinguish this from any other of the genus. The leaves have long, scattered, whitish hairs all over, especially at the margin; flowers pale-yellow, on a scape more or less downy, and with glandular scattered hairs.

2. *H. murorum*, (*wall Hawkweed*,) stem subcorymbose and downy above, few-flowered, with 1 petiolate leaf; radical leaves ovate, on longish peduncles, dentate at the base, hairy. E. B. t. 2082.

HAB. High Tor Rocks. Rocks near Dunsford, Mr. Jacob. Fl. July. ♀

6-12 inches high; the leaves vary much in breadth, denticulation, and hairiness; there are a few black glandular bristles near the involucre, and one rather largish, more or less petiolate leaf, on the stem, and occasionally 1 or 2 much smaller ones above.

3. *H. sabaudum*, (*shrubby Hawkweed*,) stem erect, branched above, many-flowered; leaves ovate, lanceolate, toothed, serrate, semi-amplexicaul, hairy beneath. E. B. t. 349.

HAB. Woods at Ilington. Hedges at Tiverton, North Bovey, Hennock, and Manaton. Fl. July, August. ♀

2 or 2-3 feet high, somewhat shrubby and stiff.

4. *H. umbellatum*, (*narrow-leaved Hawkweed*,) stem erect, simple, leafy; leaves sessile, linear-lanceolate, subglabrous, slightly toothed; flowers sub-umbellate; invol. glabrous. E. B. t. 1771.

HAB. Woods, &c. frequent. About Tiverton; Dartmouth Castle; Holne Chase; Dean Burn near Ashburton; Buckland and Spitchwick Woods; Beckey Fall; Woods at Ilington; Fingle Bridge near Drewsteignton; Bridford Woods. Fl. August, September. ♀

Stem 1½-3 feet high, with many sessile leaves.

## 8. CREPIS.

1. *C. tectorum*, (*Hawksbeard*,) stem glabrous; leaves glabrous, radical ones runcinate, upper ones linear, sagittate, embracing the stem; panicle subcorymbose; invol. downy. E. B. t. 1111. Huds. Fl. Ang. 341. (*Hedypnois tectorum*.)

HAB. Hedges and pastures, common. Fl. June—September. ☉

Stem 1-3 feet high, branched; leaves light-green, segments sometimes horizontal, sometimes curved upwards; flowers small, yellow.

## 9. HYPOCHÆRIS.

1. *H. radicata*, (*long-rooted Cat's-ear*,) stem branched, leafless, glabrous; leaves runcinate, obtuse, scabrous; pedun-



cles scaly. E. B. t. 831. Gray Nat. Arr. 2. 427. (*Achyrophorus radicans*.)

HAB. Hedges and pastures, common. Fl. July. 2

Leaves all radical and spreading; stem 6-12 inches high; flowers largish, yellow; pappus stipitate.

#### 10. LAPSANA.

1. *L. communis*, (*Nipplewort*,) stem paniced; leaves ovate, petiolate, angularly toothed; invol. when in fruit angular. E. B. t. 844.

HAB. Waste places, &c. common. Fl. June—August. 2

Stem 2-4 feet high; leaves slightly hairy, radical ones more or less lyrate; flowers small, yellow.

#### 11. CICHORIUM.

1. *C. Intybus*, (*wild Succory*,) leaves runcinate; flowers sessile, axillary, in pairs. E. B. t. 539.

HAB. Fields, occasionally. Chudleigh. Isington. Teignmouth Den. About Paignton, Brixham, and Kingskerswell, Rev. A. Neck. Fl. July, August. 2

1-3 feet high, erect, angular, branched; flowers numerous, large, pale-blue. The *Endive* or *Succory* of the gardens is a distinct species, (*C. endivia*,) and is supposed to be a native of India, and not this species, as Withering seems to imply. Bot. Arr. 3. 694.

ττ. Capitate.

#### 12. ARCTIUM.

1. *A. lappa*, (*Burdock*,) leaves cordate, petiolate.

α. invol. glabrous. E. B. t. 1228. (*A. lappa*.)

β. invol. with a cobweb down. E. B. t. 2478. (*A. bandeduna*.) Decand. Fl. Gall. 3009. (*Lappa tomentosa*.)

HAB. Waste places, way sides, &c. common. Fl. July, August. 3

2-3 or more feet high; root leaves very large; invol. sometimes glabrous, sometimes with a more or less abundant cottony substance, interwoven among the hooked scales; flowers purple.

#### 13. SERRATULA.

1. *S. tinctoria*, (*Sawwort*,) leaves acutely serrate, glabrous, pinnatifid, terminal lobe largest; flowers in a small clustered umbel. E. B. t. 38.

HAB. Woods, moist pastures, and sides of streams, occasionally. Chudleigh, Bovey Heathfield, Ashburton, Holne Chase, Isington, Marychurch, &c. Fl. July, August. 2

Stem 2-3 feet high, erect, branched, stiffish; flowers purple. Produces a yellow dye.

## 14. CARDUUS.

## τ. Leaves decurrent.

1. *C. nutans*, (*Musk Thistle*,) leaves spinous; flowers drooping; invol. scales lanceolate, cottony, upper ones spreading. E. B. t. 1112.

HAB. Waste places, dry pastures, &c. frequent. Fl. June, July. ☉

2-3 feet high, slightly branched, cottony, interruptedly winged; leaves oblong, deeply sinuate; flowers solitary, large, purple.

2. *C. acanthoides*, (*curled Thistle*,) leaves sinuate, spinous; invol. globose, subsessile; scales linear, slightly recurved. E. B. t. 973. Huds. Fl. Ang. 350. (*Carduus crispus*.)

HAB. Waste places, &c. Chudleigh, Ilsington, &c. Fl. June, July. ☉

3-4 feet high, branched, interruptedly winged; flowers deep-purple, clustered at the end of the branches.

3. *C. tenuiflorus*, (*slender-flowered Thistle*,) leaves sinuate, spinous, cottony beneath; invol. sub-cylindrical, clustered, sessile, their scales lanceolate, erect. E. B. t. 412. Huds. Fl. Ang. 351. (*C. acanthoides*.)

HAB. Waste places. Southernhay Field, Exeter; Teignmouth, Brixham, Lympstone, Marychurch, &c. Fl. June—August. ☉

Stem 2-3 or more feet high, winged the whole way by the decurrent leaves; flowers small, crowded, pale-purple.

## ττ. Leaves sessile.

4. *C. marianus*, (*Mary's Thistle*,) leaves waved, spinous, embracing, hastate, radical ones pinnatifid; invol. subfoliaceous, recurved, spinous. E. B. t. 976. Gært. Sem. et Fruc. 2. 378. (*Silybum Marianum*.)

HAB. Chudleigh Rocks. Bovey Heathfield. Topsham. Seaton. Rocks at Marychurch, Rev. A. Neck. Fields at Lower Wear, near Topsham. Fl. July, August. ☉

The dark-green leaves, laced with broad white anastomosing veins, and the large recurved scales of the involucre at once distinguish this plant. It reaches to the height of 5 or 6 feet.

## 15. CNICUS.

## τ. Leaves decurrent.

1. *Cn. lanceolatus*, (*spear Thistle*,) leaves hispid, pinnatifid, their segments mostly 2-lobed, divaricate, spinous; invol. ovate, downy, scales lanceolate, spreading. E. B. t. 107. (*Carduus lanceolatus*.) Decand. Fl. Gall. (*Cirsium*.)

HAB. Waste places, common. Fl. July—September. ♂

3 or 4 feet high; leaves downy beneath, with a long and very sharp point; flowers purple or white, large, standing singly.

2. *Cn. palustris*, (*marsh Thistle*,) leaves pinnatifid, scabrous, spinous; invol. ovate, clustered; scales ovato-lanceolate, mucronate, appressed. E. B. t. 974. (*Carduus palustris*.)

HAB. In wet situations, common. Fl. July, August. ♂

6 feet high, stiff, branched, spinous; flowers dark-purple, or occasionally white, in clustered heads.

ττ. Leaves sessile.

3. *Cn. arvensis*, (*creeping Thistle*,) stem panicled; leaves pinnatifid, spinous; invol. ovate; scales mucronate, appressed. E. B. t. 975. (*Carduus arvensis*.) With. Bot. Arr. 696. (*Serratula arvensis*.)

HAB. Fields, &c. frequent. Fl. July, August. ♀

Root creeping; stem 1-3 feet high, angular, smooth; flowers purple.

4. *Cn. eriophorus*, (*woolly-headed Thistle*,) leaves pinnatifid; every other segment pointing upwards, spinous, scabrous; invol. spherical, woolly. E. B. t. 386. (*Carduus eriophorus*.)

HAB. In waste places, &c. frequent. Fl. July. ♂

Stem 2-3 feet high, much branched, furrowed; leaves acuminate, white and downy beneath, lobes alternately pointing up and down; invol. very large with linear mucronate scales, interwoven with a woolly substance; cor. purple.

5. *Cn. pratensis*, (*meadow Thistle*,) leaves lanceolate, waved, unequally spinous, cottony beneath; flowers mostly solitary. E. B. t. 177.

HAB. Woodbury Hill, and about Lympstone, Rev. J. Jervis. Fl. July. ♀

About a foot high, with solitary flowers; invol. scales lanceolate, closely imbricate, with short spines.

6. *Cn. acaulis*, (*dwarf Thistle*,) stemless; invol. glabrous. E. B. t. 161. (*Carduus acaulis*.)

HAB. Pinhay Cliffs near Lyme. Mr. Jacob. Downs near Torquay, Rev. A. Neck. Fl. July. ♀

Leaves oblong, pinnatifid, spreading close to the ground, segments lobed and spinous; flowers sessile, dark purple; invol. scales lanceolate, acute, appressed, greenish, not spinous.

## 16. CARLINA.

1. *C. vulgaris*, (*common Carline*,) stem corymbose, pubescent, many flowered; leaves lanceolate, unequally spinous and sinuate, downy beneath. E. B. t. 1144.



HAB. Dry heaths and pastures, frequent. Chudleigh, Ilsington, Hounter Wood near Manaton, Lustleigh Cleve, about Torquay and Marychurch. Fl. June, July. ♂

A foot high, with numerous shortish spines; invol. the outer scales resembling the leaves, the inner ones linear, membranaceous, yellow, entire, forming a horizontal ray round the purplish florets; anthers with 2 bristles at the base.

τττ. Discoidei.

### 17. BIDENS.

1. *B. cernua*, (*nodding Bur-Marigold*,) leaves lanceolate, serrate, undivided; bractees lanceolate, entire; flowers drooping; pericarps with 4 erect spines. E. B. t. 1114.

HAB. Side of a ditch near the Head Wear on the Exe, Mr. Jacob. Fl. June—August. ☉

Stem 2 or more feet high, branched; leaves glabrous, deeply serrate; flowers large, greenish-yellow; bractees longer than the involucre.

2. *B. tripartita*, (*trifid Bur-Marigold*,) leaves 3-parted, segments lanceolate, deeply serrate; pericarp with 2-3 spines. E. B. t. 1113.

HAB. Ditches about Chudleigh, occasionally. Fl. September. ☉

Distinguished by its 3, and occasionally 5-parted leaves; the flowers are smaller than the last, and droop slightly.

### 18. EUPATORIUM.

1. *E. cannabinum*, (*hemp Agrimony*,) leaves 3-5 parted, sub-petioled; segments lanceolate, deeply serrate. E. B. t. 428.

HAB. Wet places, common. Fl. July, August. ♀

3-4 feet high, branched, leaves pubescent, middle lobe longest; flowers very numerous, pale reddish purple, crowded in terminal corymbs, the style longer than the corolla, and deeply cleft. The plants of the first year have undivided, ovate-lanceolate leaves.

### 19. SANTOLINA.

1. *S. maritima*, (*sea Cotton-weed*,) leaves oblong, blunt, crenate, densely woolly; flowers corymbose. E. B. t. 141. Ray Synop. 180. 1. (*Gnaphalium maritimum*.)

HAB. On the Devonshire coast. Withering Bot. Arr. 707. Fl. August, September. ♀

Whole plant cottony, stem decumbent, branches erect; leaves alternate, spreading.

## II. POLYGAMIA SUPERFLUA.

## 20. TANACETUM.

1. *T. vulgare*, (*common Tansy*,) leaves bipinnatifid, cut, serrate. E. B. t. 1229.

HAB. Hedges, waste places, &c. frequent. Tiverton, Chadleigh, Moreton, North Bovey. Marychurch, and Kingskerswell, Rev. A. Neck. Fl. July, August. 24

Stem 2-3 feet high, erect, slightly branched; flowers yellow, in a terminal flat corymb; florets of the ray very few, ligulate, tridentate. Whole plant very bitter and aromatic.

## 21. ARTEMISIA.

1. *A. maritima*, (*drooping-flowered Sea-Wormwood*,) leaves pinnate, downy, the uppermost undivided; racemes drooping; flowers oblong, sessile; recept. naked. E. B. t. 1706. Fl. Brit. 864.  $\alpha$ .  $\beta$ .

HAB. Along the sea-coast, frequent. Fl. August. 24

Plant clothed with white cottony down; leaflets 3-cleft, segments linear; flowers of the ray few, occasionally wanting.

2. *A. gallica*, (*upright-flowered Sea-Wormwood*,) leaves pinnate, downy, the radical ones capillary, the uppermost undivided; racemes erect; flowers oblong, sessile; recept. naked. E. B. t. 1706. (the correct char.) and 1001. ( $\alpha$ . *maritima*, the fig.) Fl. Brit. 864. (*A. maritima*.  $\gamma$ .)

This species is distinguished from the last by the upright flowers; which character, according to Smith, is constant, and accompanied by differences in the general habit of the plant.

3. *A. absinthium*, (*common Wormwood*,) leaves covered with silky down, lower ones bi-tripinnatifid, upper ones pinnatifid, uppermost entire; flowers hemispherical, drooping; recept. hairy. E. B. t. 1230.

HAB. Waste places, frequent. Fl. August. 24

1-3 feet high, erect, striate, branched; flowers pedicelled, drooping, dingy-yellow, on erect leafy racemes; very bitter and aromatic.

4. *A. vulgaris*, (*Mugwort*,) leaves pinnatifid, their segments cut, downy beneath; flowers ovate; recept. naked. E. B. t. 978.

Hedges and waste places, common. Fl. August. 24

3-4 feet high, furrowed; leaves with acute, sharply-cut segments, upper side dark-green, slightly downy, under, white, with dense cottony down; invol. downy; flowers few, purplish. Possesses, in a much slighter degree, the properties of the last species.

## 22. GNAPHALIUM.

1. *G. uliginosum*, (*marsh Cudweed*,) stem much branched, diffuse, woolly; leaves linear, lanceolate, downy; flowers in terminal crowded clusters, shorter than the leaves. E. B. t. 1194.

HAB. Wet, sandy, and occasionally inundated places, common. Fl. August, September. ☉

Stem 4-12 inches high; flowers 2 or 3 together, in the closely set upper leaves, small, sessile, forming oblong clusters at the ends of the branches; invol. with yellowish-brown, shining, glabrous scales.

2. *G. minimum*, (*least Cudweed*,) stem erect, branched; branches spreading; leaves lanceolate, acute, cottony; flowers conical, in lateral and terminal clusters, longer than the leaves. E. B. t. 1157. Huds. Fl. Ang. 362. and With. Bot. Arr. 715. (*G. montanum*,)

HAB. Exmouth Warren. Widdecombe-in-the-Moor, Rev. A. Neck. Fl. July, August. ☉

4-6 inches high, slender, dichotomously branched above; invol. downy, broad at the base; florets yellowish.

3. *G. germanicum*, (*common Cudweed*,) stem erect, forked at the summit; leaves lanceolate, downy, acute; flowers capitate, in the axils of the branches and terminal. E. B. t. 1946.

HAB. Fields, waste places, &c. common. Fl. June, July. ☉

Stem 6-8 inches high, erect, leafy, terminated by a roundish head of small ovate flowers, from beneath which, 2, 3 or more branches spring in a proliferous manner, each terminated by a similar head, so that the latest flowers overtop the first; invol. with yellowish, shining, very acute scales.

## 23. CONYZA.

1. *C. squarrosa*, (*Plowman's Spikenard*,) leaves ovate, lanceolate, downy, lower ones crenate, upper ones entire; flowers in a corymb; invol. with leafy recurved scales. E. B. t. 1195.

HAB. Hedges, occasionally, especially on a calcareous soil. Tiverton, Exeter, Chudleigh, Ilsington, Totness, &c. Fl. July—September. ♂

Stem 2-3 feet high; flowers dusky-purple, or yellow, on a leafy panicle.

## 24. TUSSILAGO.

1. *T. farfara*, (*Colt's-foot*,) leaves cordate, angular, toothed, cottony beneath; scape imbricated with scales, 1-flowered; fl. rayed. E. B. t. 429.

HAB. Fields, common. Fl. March, April. ♀

Root creeping; leaves all radical, appearing after the flowers, scape downy; flower bright yellow.



2. *T. petasites*, (*great Butter-bur*,) leaves cordate, unequally toothed, downy beneath, lobes approximating; scape many flowered; fl. all tubular. E. B. t. 431. and 430. (*T. hybrida*.) With. Bot. Arr. 720. and 721. (*T. hybrida*.)

HAB. River sides and other wet situations, common. Fl. March, April. 24

Root creeping; leaves all radical, extremely large, on long footstalks, appearing after the flowers; scape with lanceolate, spreading bractees; flowers purplish, forming an ovate, oblong thyse. (In some plants all the florets have perfect germens, in which case the stigma is linear and deeply cleft, the anthers imperfect and separate. In others, the germens are imperfect, then the stigma is incrassated, tuberculated and slightly notched, and the anthers perfect and united. To this latter, the name of *T. petasites* has been usually confined. The former with the perfect germens, but producing no seed, has been very generally considered a distinct species, and named *T. hybrida*.)

## 25. SENECEO.

τ. Ray revolute, or 0.

1. *S. vulgaris*, (*common Groundsel*,) leaves pinnatifid, toothed, half embracing; fl. in clustered corymbs, without ray. E. B. t. 747.

HAB. Gardens and waste places, common. Fl. April—October. ☉

2. *S. sylvaticus*, (*wood Groundsel*,) leaves sessile, pinnatifid, lobed and toothed; invol. scales short, glabrous; ray revolute. E. B. t. 748. Huds. Fl. Ang. 362. (*S. viscosus*, β.)

HAB. Dry banks and hedges, frequent. Fl. June, July. ☉

A tall firm stem, leaves finely divided, rather viscid and fetid.

ττ. Ray patent.

3. *S. tenuifolius*, (*hoary Ragwort*,) leaves pinnatifid, sub-revolute, pubescent beneath. E. B. t. 574.

HAB. About Exeter, common, Mr. Jacob. Fl. July, August.

Stem erect, leafy, woolly; leaves alternate, amplexicaul, pinnatifid; flowers yellow.

4. *S. Jacobaea*, (*common Ragwort*,) leaves lyrate, bipinnatifid, divaricated, toothed, glabrous; ray spreading; pericarps hairy. E. B. t. 1130.

HAB. Hedges and pastures, common. Fl. July, August. 24

Root fibrous; stem erect, corymbose, 2-3 feet high; flowers large, gold-yellow; pericarps of the circumference hairy, of the disk glabrous.

5. *S. aquaticus*, (*marsh Ragwort*,) leaves lyrate, serrate, glabrous, lowermost obovate, undivided; invol. hemispherical; pericarps glabrous. E. B. t. 1131.

HAB. Wet places, frequent. Fl. July, August. 24

Flowers larger than the last species.

26. ASTER.

1. *A. tripolium*, (*sea Starwort*,) stem glabrous, corymbose; leaves linear-lanceolate, fleshy, obscurely 3-nerved; invol. with imbricated, lanceolate, obtuse, membranaceous scales. E. B. t. 87.

HAB. Sea-coast and salt marshes, common. Fl. August, September. 24  
1-3 feet high; flowers, disk yellow, ray blueish-purple, the latter often absent.

27. SOLIDAGO.

1. *S. virgaurea* (*Golden-rod*,) leaves, lower ones elliptical, stem leaves lanceolate; racemes paniced, erect, crowded. E. B. t. 301.

HAB. Woods and hedges, common. Fl. July—September. 24  
1-3 feet high; lower leaves petiolate, broad, upper sessile, recurved, all more or less downy. *S. cambrica* of With. Bot. Arr. 728. and Huds. Fl. Ang. 367., and *S. lapponica* of the former, are dwarf varieties.

28. INULA.

1. *I. helenium*, (*Elecampane*,) leaves amplexicaul, ovate, lightly toothed, rugged, downy beneath; invol. scales foliaceous, downy. E. B. t. 1546.

HAB. Orchards at Rora near Hsington, and at Christowe. Fl. July, August. 24  
Stem 5-6 feet high, branched above; flowers large, solitary, terminal; hardly indigenous.

2. *I. dysenterica*, (*common Fleabane*,) stem paniced, woolly; leaves oblong, cordate, amplexicaul, rugged, downy; invol. scales setaceous. E. B. t. 1115.

HAB. Wet places, common. Fl. August, September. 24  
Root creeping; stem erect, branched, woolly; flowers yellow; a strong aromatic smell.

29. BELLIS.

1. *B. perennis*, (*common Daisy*,) leaves obovate, crenate; scape naked, 1-flowered. E. B. t. 424.

HAB. Fields, &c. common. Fl. March—November. 24

30. CHRYSANTHEMUM.

1. *C. leucanthemum*, (*great white Ox-eye*,) stem erect, branched; leaves, radical ones obovate, petiolate, cauline ones amplexicaul, oblong, obtuse, cut, pinnatifid at the base. E. B. t. 601.

HAB. Fields, &c. common. Fl. June, July. 24  
Stem 1-2 feet high, furrowed; flowers large, disk yellow, ray white.



2. *C. segetum*, (*corn Marigold*,) leaves amplexicaul, toothed at the base, cut, serrate above. E. B. t. 540.

HAB. Tillage fields, occasionally. Topsham, Exminster, Dawlish, Chudleigh, Christowe, &c. Fl. July, August. ☉

Stem 1-2 feet high; flowers large, deep yellow.

### 31. PYRETHRUM.

1. *P. parthenium*, (*common Feverfew*,) stem erect; leaves petioled, flat, bipinnate, the segments ovate, cut; peduncles branched, corymbose; invol. hemispherical, pubescent. E. B. t. 1231. With. Bot. Arr. 735. (*Matricaria parthenium*.)

HAB. Hedges and waste places, occasionally. Chudleigh, Ilington. Fl. June, July. ♀

Stem 1-2 feet high, branched; flowers, disk yellow, ray white, very short; bitter and aromatic.

2. *P. inodorum*, (*scentless Feverfew*,) stem branched, spreading; leaves sessile, bipinnatifid, with capillary segments; pappus entire. E. B. t. 676. With. Bot. Arr. 734. (*Chrysanthemum inodorum*.) Huds. Fl. Ang. 372. (*Matricaria inodora*.)

HAB. Water side at Exwick, Mr. Jacob. Paignton Sands, Rev. A. Neck. Fl. July—September. ☉

A foot high; flowers large, on naked peduncles; disk very convex, yellow; ray, large, white.

3. *P. maritimum*, (*seaside Feverfew*,) stem diffused, branched; leaves bipinnatifid, the segments linear, fleshy, awnless; pappus lobed. E. B. t. 971. With. Bot. Arr. 373. (*Matricaria maritima*.) Huds. Fl. Ang. 373. (*Matricaria inodora*, γ.)

HAB. Along the coast, occasionally. Fl. July. ♀

6-12 inches high, spreading, thickly clothed with shining fleshy leaves. The flowers are much smaller, and the ray relatively much shorter than in the last species.

### 32. MATRICARIA.

1. *M. chamomilla*, (*wild Chamomile*,) leaves glabrous, bipinnatifid, the segments capillary; invol. nearly plane, its scales obtuse. E. B. t. 1232.

HAB. Waste ground, heaths, &c. Bovey Heathfield. Fl. July, August. ☉

Stem about a foot high, erect, branched; flowers, disk yellow, very conical; ray white, very obtuse, truncate, toothed.

### 33. ANTHEMIS.

1. *A. nobilis*, (*proper Chamomile*,) leaves bipinnate; the

segments linear, subulate, slightly downy; recept. with membranous scales, shorter than the cor. E. B. t. 980.

HAB. Dry pastures and heaths, occasionally. Haldon. Bovey Heath-field. Milburn Down, near Newton Abbot. Boggy ground near New Bridge, on the Dart. Banks of the Meavy, below Meavy, Rev. Mr. Tozer. Fl. August, September. 2.

Stems about a foot long, procumbent, much branched; peduncles terminal, solitary, naked; flowers, disk yellow, at length conical, ray white. Bitter and aromatic.

2. *A. arvensis*, (*corn Chamomile*,) leaves bipinnatifid, pubescent, the segments linear-lanceolate; recept. conical; scales lanceolate, longer than the cor.; pappus entire. E. B. t. 602.

HAB. Tillage fields, &c. frequent. Moreton, Ilsington, &c. Fl. June, July. ♂

Whole plant covered with pubescence; stem erect, much branched; peduncles terminal, solitary; flowers large, disk yellow, ray broad, white.

3. *A. cotula*, (*stinking Chamomile*,) leaves bipinnatifid, glabrous, their segments subulate; recept. conical, its scales setaceous; pappus 0. E. B. t. 1772. Gray Nat. Arr. 2. 456. (*Maruta fetida*.)

HAB. Fields and waste places, frequent. Fl. July—September. ☉

Stem a foot or more high, erect, glabrous, much branched; flowers solitary, terminal, disk convex, pale-yellow; ray large, white, elliptical, 3-toothed. Whole plant acrid and fetid.

### 34. ACHILLEA.

1. *A. ptarmica*, (*Sneezewort*,) leaves linear, lanceolate, acuminate, sharply serrate. E. B. t. 757.

HAB. Wet boggy pastures and heaths, frequent. Chudleigh, Ilsington, Moreton, Oakhampton, Woodbury Hill, &c. Fl. July, August. 2.

1-3 feet high, erect, terminating in a largish corymb of flowers; disk and ray both white.

2. *A. millefolium*, (*common Yarrow*,) leaves bipinnate, slightly hairy, segments linear, toothed, acute. E. B. t. 758.

HAB. Pastures, way sides, &c. common. Fl. June—August. 2.

About a foot high, terminating in a corymb; flowers smaller than the last species, white, and tinged with rose-colour.

## III. POLYGAMIA FRUSTRANEA.

### 35. CENTAUREA.

1. *C. nigra*, (*black Knapweed*,) lower leaves angularly lyrate, upper ones ovate, lanceolate; invol. scales ovate, fringed with long capillary teeth. E. B. t. 278. Gray Nat. Arr. 2. 442. (*Phrygia nigra*.)

β. Florets of the circumference radiate. Fl. Brit. 910. (*Centaurea nigra*, β.) Gray Nat. Arr. 2. 442. (*Phrygia pratensis*.)

HAB. Hedges, fields, &c. common. Both varieties equally so. Fl. July, August. 24

Root creeping; stem 2-3 feet high; leaves scabrous; invol. scales almost black, fringe brown; the inner ones with claws of a lighter colour; flowers purple, occasionally white.

2. *C. Cyanus*, (*Blue Bottle*,) leaves linear, entire, the lower ones toothed; invol. with lanceolate, serrated leaves. E. B. t. 227.

HAB. Tillage fields, common. Fl. July, August. ☉

Root fibrous, 2-3 feet high, much branched, covered with a loose cottony down; florets of the disk small, purple; those of the ray large, spreading, bright-blue; invol. scales greenish, margins brown.

3. *C. Scabiosa*, (*great Knapweed*,) leaves pinnatifid, roughish, segments lanceolate, acute; invol. with ovate, pubescent, ciliated scales. E. B. t. 56.

HAB. Fields and hedges, common. Fl. July, August. 24

3 feet high, erect, much branched; invol. large, globose, almost black; cilia whitish; flowers purple, occasionally white.

4. *C. calcitrapa*, (*common Star Thistle*,) stem spreading, divaricate, hairy; leaves pinnatifid, toothed; invol. sessile, scales imbricate, cartilaginous, terminating in a compound spine. E. B. t. 125. Gärtn. 2. 367. (*Calcitrapa hippophæstum*.)

HAB. Exmouth Sands. Fl. July, August. ☉

Stem much branched in a proliferous manner; florets rose-colour; spines light yellow.

## XX. GYNANDRIA.

### I. MONANDRIA.

#### 1. ORCHIS.

τ. Tubers 2; undivided.

1. *O. morio*, (*meadow Orchis*,) sepals ascending, obtuse; spur conical, ascending, shorter than the germen; lip 3-lobed, lobes crenate, obtuse, middle one emarginate. Hort. Kew. Ed. 2. vol. v. p. 188. E. B. t. 2059.

HAB. Meadows near Exmouth. Torquay. Fl. May, June. 24

8-12 inches high; leaves lanceolate; spike ovate, lax, few-flowered; flowers purple, 3 upper segments with green ribs; lip dilated, middle lobe spotted.



2. *O. mascula*, (*early purple Orchis*,) sepals acute, the outer one reflexed; spur linear, ascending, length of the germen; lip 3-lobed, crenulate, obtuse, middle one cleft. Hort. Kew. vol. v. p. 188. E. B. t. 631.

HAB. Woods and pastures, common. Fl. April, May. 2

Stem a foot high; leaves lanceolate, generally with dark purple spots; spike oblong, lax; flowers purple, the lip whitish at the base, with a few purple spots.

3. *O. pyramidalis*, (*pyramidal Orchis*,) sepals lanceolate, the 2 outer ones spreading; spur filiform, longer than the germen; lip 3-cleft, the lobes equal, entire, with 2 scales near the base. Hort. Kew. vol. v. p. 189. E. B. t. 110. Gray Nat. Arr. 2. 200. (*Anacamptis pyramidalis*.)

HAB. Woods at Chudleigh. Near Goodrington and on the Orestone, Rev. A. Neck. Westdown Cliff, Rev. J. Jervis. Woods at Ilsington. Fl. June, July. 2

Stem a foot high, slender; spike pyramidal, compact, many-flowered; flowers purplish rose colour, occasionally white. Distinguished by the 2 processes at the base of the lip and the length of the spur.

4. *O. ustulata*, (*dwarf Orchis*,) sepals erect, pointed; spur recurved, one-third the length of the germen; lip 3-lobed, lobes linear, rough with dots, middle one cleft. Hort. Kew. vol. v. p. 189. E. B. t. 18.

HAB. Torquay, Miss Kingston. Shaugh Vale, Dr. Moore. Fl. June. 2

Stem 5-8 inches high, angular; leaves lanceolate, not spotted; spike short, dense, many-flowered; flowers brownish-purple, greenish-white within; spur blunt; lip white, with raised spots.

rr. Tubers 2; palmate.

5. *O. latifolia*, (*marsh Orchis*,) bracteas longer than the flowers; sepals connivent; spur cylindrical, shorter than the germen; lip 3-lobed, the sides reflexed. Hort. Kew. vol. v. p. 190. E. B. t. 2308.

HAB. Marshes and moist meadows. Near Chudleigh. Meadows at Lymptone. Old Cut, near Totness Weir on the Dart. Fl. May, June. 2

Stem 12-18 inches high; flowers varying from a very pale to a deep purple, the lip marked with darker dots and lines. Distinguished by the broad sub-erect acuminate leaves, slightly lobed lip, and especially by the long leafy bracteas.

6. *O. maculata*, (*spotted palmate Orchis*,) bracteas as long as the germen; sepals, the 3 inner ones connivent, the lateral ones patent; spur cylindrical, shorter than the germen; lip plane, 3-lobed, crenate. Hort. Kew. v. 190. E. B. t. 632.

HAB. Hedges, fields, &c. common. Fl. June. 2

About a foot high; leaves distant, keeled, spotted with purple; spike ovate, oblong, dense; flowers white or pale-purple, more or less spotted or streak-

ed, especially the lip. The deeply lobed lip and small subulate bractæ at once distinguish this from the last species.

## 2. HABENARIA.

1. *H. bifolia*, (*Butterfly Orchis*,) spur filiform, twice as long as the germen; lip linear, entire. Hort. Kew. vol. v. p. 192. E. B. t. 22. (*Orchis bifolia*.) Gray Nat. Arr. 2. 206. (*Platanthera bifolia*.)

HAB. Chudleigh, Ilington, Torquay. Widdecombe-in-the-Moor, Woodbury Hill, Parracombe, &c. frequent. Fl. June. ♀

Tubers tapering, undivided; stem 1-2 feet high, with 2 large radical leaves, and 3 or 4 very small cauline ones; flowers numerous, yellowish-white, fragrant, on a long spike.

## 3. OPHRYS.

1. *O. apifera*, (*Bee Orchis*,) lip 5-lobed, convex, villous; terminal segment subulate, recurved. Hort. Kew. vol. v. p. 195. E. B. t. 383.

HAB. Branscombe Cliffs. Limestone Rocks around Torbay. Fl. June. ♀

Tubers roundish; stem 12-18 inches high, leafy; leaves broad, bractea longer than the germen; spike few-flowered, loose; flowers 3, outer sepals oval, obtuse, purple, 2 inner ones short, lanceolate, greenish.

## 4. NEOTTIA.

1. *N. spiralis* (*Ladies' Traces*,) flowers spirally arranged, pointing one way; lip undivided, crenulate. Hort. Kew. vol. v. p. 199. E. B. t. 541. (*Ophrys spiralis*.)

HAB. Meadows near Ilington village. Pinhay Cliffs, near Lime. Torquay and Marychurch, Rev. A. Neck. Rora Down, Ilington. Fl. August, September. ♀

Stem 5-6 inches high, smooth below, pubescent above; spike long, spiral, many-flowered; bractea lanceolate, longer than the germen; flowers small, white.

## 5. LISTERA.

1. *L. ovata*, (*ovate Twayblade*,) stem with 1 pair of ovate opposite leaves. Hort. Kew. vol. v. p. 201. E. B. t. 1548. (*Ophrys ovata*.)

HAB. Chudleigh. Edginswell, near Torquay, Rev. A. Neck. Near Berry Castle, Miss Kingston. Fl. June, July. ♀

Root fibrous; stem a foot high; leaves striate; flowers yellowish-green, distinctly placed on the spike; sepals, 3 outer ovate, spreading, 2 inner linear, oblong; lip long and bifid; column of fructification with an appendage in which the anther is placed.

2. *L. nidus-avis*, (*Bird's Nest*,) stem with sheathing scales, leafless. Hook. in Fl. Lond. Richard Mem. Mus. 4. 59. (*Neottia*.) E. B. t. 48. (*Ophrys Nidus-avis*.)



HAB. Woodbury Hill, Rev. J. Jervis. Ugbrooke Park, Mr. Jacob. Fl. May, June. 2

Roots of short, thick, densely crowded fibres; stem a foot high; flowers in a lax spike, dingy-brown; sepals ovate, connivent; lip oblong, bifid at the end, the lobes spreading.

## 6. EPIPACTIS.

1. *E. latifolia*, (*broad-leaved Helleborine*,) leaves ovate, embracing; bracteas, lower ones longer than the flowers; flowers drooping; lip entire, acuminate, shorter than the sepals. Hort. Kew. vol. v. p. 201. E. B. t. 269. (*Serapias latifolia*.)

HAB. Blackpool, near Ingædon. Ranscombe, near Chudleigh. Ebford Wood, Woodbury, Rev. J. Jervis. About Lawrence Castle, near Haldon House, Rev. R. P. Welland. Fl. July, August. 2

Root creeping; stem 1-2 feet high; leaves, lower ones broadly ovate, upper ones gradually narrower; flowers greenish purple, in long lax spikes; sepals and lip connivent.

2. *E. palustris*, (*marsh Helleborine*,) leaves lanceolate, embracing; bracteas shorter than the flower; flowers slightly drooping; lip obtuse, crenate, length of the sepals. Hort. Kew. vol. v. p. 202. E. B. t. 270. (*Serapias palustris*.) With. Bot. Arr. 41. (*Serapias longifolia*.)

HAB. Branscombe Cliffs, Rev. J. Jervis. Fl. July, August. 2

Stem a foot high; spike oblong; flowers distant; 3 outer sepals greenish-purple, 2 inner ones and the lip clear white, streaked with rose-colour at the base. The germen much longer than in the last species.

In the Continuation of the Fl. Lond. Dr. Hooker has given very accurate figures of all the species of the natural family here enumerated.

# XXI. MONŒCIA.

## I. MONANDRIA.

### 1. ZANNICHELLIA.

1. *Z. palustris*, (*horned Pondweed*,) anthers 4-celled; stigmas entire; pericarps toothed on the back. E. B. t. 1844.

HAB. Ditches and ponds. Mill Pond at Lympstone. Fl. August. ☉

Long, filiform, branched, floating; leaves opposite, linear, entire; flowers axillary, from a membranaceous bractea; the fertile flower on a short stalk.

### 2. CALLITRICHE.

1. *C. aquatica*, (*water Starwort*,) E. B. t. 722. Hook.

Fl. Scot. 259. With Bot. Arr. 516. (*C. cerna* & *autumnalis*.)

HAB. Ditches, ponds, and slow streams, common. Fl. April—October. ☉

Stems filiform, branched, varying much in length and also in the form of the leaves: the upper leaves, generally floating on the surface, are spatulate and crowded, the rest linear, and all opposite; flowers white from the axils of the upper leaves.

### 3. ZOSTERA.

1. *Z. marina*, (*grass Wrack*,) stem roundish; leaves entire, slightly 3-nerved. E. B. t. 467. Hook. Fl. Scot. 259. Hook. Fl. Lond.

HAB. Frequently thrown up by the tide on the beaches of the sea-coast. Exmouth, Sidmouth, Teignmouth, &c. Fl. April, May. ♀

Stems and leaves very various in length: the latter long, linear, obtuse, more or less finely 3-nerved with long sheathing bases, from which springs the linear spadix.

## II. TRIANDRIA.

### 4. TYPHA.

1. *T. latifolia*, (*great Cat's-tail*,) leaves linear, nearly plane, sterile and fertile spikes close together. E. B. t. 1455.

HAB. Lympstone and Clyst Marshes. Old Chy Pits at Kingsteignton. Fl. July. ♀

Culm 5-8 feet high; leaves very long, and often an inch or more in breadth; catkins very long; fertile one below, brown; sterile one above, yellow, with 1 or 2 large membranous bractees; the pollen very abundant.

### 5. SPARGANIUM.

1. *S. ramosum*, (*branched Bur-weed*,) leaves triangular at the base, concave at the sides; peduncles branched; stigma linear. E. B. t. 744. Linn. Sp. Plan. 1378. (*S. erectum*.)

HAB. Wet places, frequent. Fl. July. ♀

Culm 2 or 3 feet high, branched above; the sterile fl. in spherical heads, distantly placed on the upper branches of the culm; fertile ones below.

2. *S. simplex*, (*unbranched Bur-weed*,) leaves triangular at the base, plane at the sides; peduncle simple; stigma linear. E. B. t. 745.

HAB. In the Exe below Cowley Bridge. In the Clyst, near Clyst Bridge. Fl. July. ♀

Much smaller than the last; flowers pale-yellow; the sides of the leaves not concave or grooved.

### 6. CAREX.

#### I. Stigmas 2.

τ. Culm bearing a simple solitary spike.

1. *C. pulcaris*, (*flea Carex*,) root fibrous; spike androgy-

nous, sterile fl. above; fruit distant, oblong, sharp at both ends, reflexed. E. B. t. 1051.

HAB. Bogs, frequent. Haldon, Woodbury Hill, Moreton, Ilington, Spitchwick Wood, &c. Fl. June. 24

Culm 6-8 inches high, smooth, slender; leaves setaceous; spikes linear, erect; fruit dark-brown, shining.

rr. Culm bearing many sessile androgynous spikelets.

a. Sterile fl. above.

2. *C. divisa*, (*bracteated marsh Carex*,) bractæa foliaceous, erect, at the base of the spike; spikelets crowded, ovate; fruit ovate, adpressed, acutely angular; apex bifid. E. B. t. 1096.

HAB. Marshy situations. Fl. May, June. 24

Root creeping, thick, twisted; culm 1-2 feet high; spikelets 5 or 6, lower ones rather distant, upper ones irregularly crowded; lower bractæa long and leaf-like.

3. *C. muricata*, (*prickly Carex*,) spikelets in a longish, more or less interrupted spike; fruit divergent, ovate, plano-convex, acutely angled, margin rough upwards, apex bifid. E. B. t. 1097. Huds. Fl. Ang. 406. (*C. spicata*.)

β. Spike elongated; spikelets distant. E. B. t. 629. and With. Bot. Arr. 93. (*C. divulsa*.) Huds. Fl. Ang. 405. (*C. canescens*.)

HAB. Hedges, &c. frequent. β. near Gulliford Chapel, Lympstone. Fl. May, June. 24

1-2 feet high; spike oblong, cylindrical, branched; spikelets roundish, more or less crowded; bractæa small, lanceolate, scariose, setaceous at the end; fruit pale-brown.

4. *C. vulpina*, (*great Carex*,) spikelets thrice compound, in a crowded cylindrical spike; bractæa setaceous; fruit divergent, ovate, acute, compressed, acutely angular. E. B. t. 307.

HAB. Banks of rivers, and other wet situations. Chudleigh, Lympstone, Clyst Banks, &c. Fl. May. 24

Root fibrous, matted; culm 2 or more feet high, stout; spike large, greenish; fruit pale, rough at the ends of the margin, bifid at the apex.

5. *C. paniculata*, (*green panicled Carex*,) spikelets thrice compound, collected in a panicled spike; fruit ovate, acuminate, gibbous on both sides, margin membranaceous towards the end. E. B. t. 1064.

β. Smaller, with a very compact spike. E. B. t. 1065, and With. Bot. Arr. 95. (*C. teretiuscula*.)

HAB. Bogs and wet places. Ilington, Exwick Wood, Topsham Causeway, &c. β. Ilington, Clyst Marshes. Fl. June. 24

Root fibrous, matted; culm 2-3 feet high, triangular, striate; bractees small, setaceous; fruit small, shining.

β. Sterile flower beneath.

6. *C. stellulata*, (*small stellated Carex*,) spikelets 3-4, rounded, distant; fruit ovate, acute, divaricated, rough at the margin. E. B. t. 806. Huds. Fl. Ang. 406. (*C. muricata*.)

HAB. Bogs, frequent. Fl. May, June. 24

6-12 inches high; leaves nearly as long as the culm; bractees long and foliaceous; glume acute, with a broad green rib; fruit few, plano-convex, much beaked.

7. *C. curta*, (*white Carex*,) spikelets 5-6, elliptical, rather distant; fruit erect, ovate, acute. E. B. t. 1386. Huds. Fl. Ang. 408. (*C. brisoides*.) Lightfoot Fl. Scot. 550. (*C. canescens*.)

HAB. Wet places about Chudleigh. Fl. June. 24

The elliptical pale whitish-green spikelets and imbricate capsules distinguish this species.

8. *C. ovalis*, (*oval spiked Carex*,) spikelets about 5-oval, approximate; fruit length of the glume, ovate, acuminate, convex on one side, concave on the other, with a membranous margin. E. B. t. 306. Huds. Fl. Ang. 404. (*C. leporina*.)

HAB. Wet places, frequent. Chudleigh, Lympstone, Ilington, &c. Fl. June. 24

Culm 12-18 inches high, triangular; spike brownish-green, shining; bractees small, upper ones glumaceous; calyx concealing the fruit.

9. *C. remota*, (*distant Carex*,) spikelets remote, solitary; bractees leaf-like, longer than the culm; fruit longer than the glume, ovate, acuminate, subcompressed, margins obtuse. E. B. t. 832.

HAB. Woods and wet situations, frequent. Fl. May, June. 24

1-2 feet high, weak; leaves slender; spikelets small, ovate, whitish, axillary, the lower ones very distant, the upper ones nearer.

10. *C. axillaris*, (*axillary clustered Carex*,) spikelets, the lower ones 3-4 together; bractees leaf-like, very long; fruit ovate, acute, compressed, length of the glume. Linn. Trans. 2. 151. t. 19. f. 1. E. B. t. 993.

HAB. Hedges at Ilington. Underhill Lane, Lympstone. Fl. May, June. 24

Differs from the last in the more rigid culm, the clustered spikelets, and deeply cloven capsules. Neither of the 2 last species can be well confounded with any other.

τ τ τ. Culm bearing sterile and fertile fl. on distinct spikes.

11. *C. arenaria*, (*sea-side Carex*,) bracteas membranaceous; spikelets crowded, the lower ones fertile, the upper sterile; fruit with a membranous margin. E. B. t. 928.

HAB. Sea coast, frequent. Fl. June. 2

Roots very long, creeping; culms 8-12 inches high, rough, triangular; leaves plane; spikelets ovate, collected into an interrupted spike.

12. *C. intermedia*, (*soft brown Carex*,) spikelets crowded, upper and lower ones fertile; intermediate ones sterile; fruit margined. E. B. t. 2042. Huds. Fl. Ang. 403. (*C. disticha*.)

HAB. About Chudleigh. Bogs at Ilington. Fl. May, June. 2

Root creeping; culm erect, 12-18 inches high, angles acute, rough; spikelets ovate, ferruginous; bracteas small, membranaceous.

13. *C. caspitosa*, (*tufted bog Carex*,) sheaths 0; bracteas foliaceous, eared at the base; spikelets sessile, oblong or sub-cylindrical, obtuse, upper one sterile; fruit broadly oval.

α. Leaves narrow, long, flaccid; spikes subcylindrical; glume mostly shorter than the fruit. E. B. t. 1507.

β. Leaves broader, recurved, rigid; spikes oblong; glume mostly as long as the fruit. E. B. t. 2047. (*C. rigida*,) and Linn. Trans. 2. 193.

HAB. α. Marshes and wet situations, frequent. β. Hamel Down, above Wittecombe-in-the-Moor. Fl. May. 2

Culm 12-18 inches high. β. is the plant growing in higher and more exposed situations.

14. *C. acuta*, (*slender spiked Carex*,) sheaths 0; bracteas long, foliaceous; spikelets, sterile ones 2-3 above, fertile ones 4-5, long, cylindrical, slender; fruit oval, with a short entire apex. E. B. t. 580.

HAB. Wet marshy situations, frequent. Fl. May. 2

Culm 2-3 feet high, scabrous, acutely angular; leaves rough; spikes at first drooping, at length erect.

## II. Stigmas 3. (*Trasus*.)

τ. Sterile spikes mostly single.

15. *C. pendula*, (*great pendulous Carex*,) leaves broad, sheaths nearly the length of the peduncles; fertile spikes cylindrical, very long, drooping; fruit closely imbricate, ovate; beak short, bifid. E. B. t. 2315.

HAB. Meadows near Moreton. Wittecombe Wood, near Exmouth. Exwick Wood, near Exeter, Mr. Jacob. Fl. May, June. 2

3-4 feet high; easily distinguished by its long pendulous spikes.



16. *C. sylvatica*, (*Wood Sedge*,) leaves narrow; sheaths half the length of the peduncles; fertile spikes filiform, distant, slightly drooping; fruit ovate acuminate, loose; beak long, bifid. E. B. t. 995.

HAB. Woods, frequent. Fl. May, June. 24

3 feet high, with several slender, loose, fertile spikes, and 1 or 2 sterile ones.

17. *C. depauperata*, (*starved Wood Sedge*,) sheaths short; fertile spikes remote, very few flowered; fruit suglobose, inflated, beak long, bifid at the end. E. B. t. 1098.

HAB. Shady hedges and woods, frequent. Fl. May, June. 24

12-18 inches high; distinguished by the very distant and few-flowered spikes and large inflated beaked fruit.

18. *C. pseudo-cyperus*, (*cyperus-like Sedge*,) bracteas leafy; sheaths 0; fertile spikes cylindrical, pendulous on long footstalks; glume setaceous; fruit ovate, lanceolate, striate; tip bifid. E. B. t. 242.

HAB. Banks of the canal, near Exeter. St. John's in the Wilderness, near Exmouth. Fl. June. 24

1-2 feet high, acutely angled; spikes many-flowered, compact, greenish. One of the best marked of this natural tribe.

19. *C. pallescens*, (*pale Sedge*,) bracteas subfoliaceous; sheaths 0; fertile spikes oblong, cylindrical, peduncled, subpendulous; fruit oval, inflated, obtuse, glabrous. E. B. t. 2185.

HAB. Wet places, frequent. Fl. May, June. 24

12-18 inches high; leaves and spikes pale-green; fruit very obtuse.

20. *C. flava*, (*yellow Sedge*,) bracteas long, foliaceous; sheaths the length of the footstalks; fertile spikes roundish-oval, on short peduncles; fruit obovate, with a long, bifid, recurved beak. E. B. t. 1294.

β. Smaller; fruit with the beak straighter. E. B. t. 1773. (*C. Ederi*.)

HAB. Marshy places, both varieties common. Fl. May, June. 24

6-12 inches high, triangular, glabrous, with long, leafy, broadish bracteas; whole plant yellowish.

21. *C. extensa*, (*long bracteated Sedge*,) leaves convolute; bracteas foliaceous, very long; fertile spikes oblong, subsessile; fruit obovate, striate, with scarcely any beak; point bifid. E. B. t. 833.

HAB. Marshy situations near the sea-side. Exmouth. Fl. June. 24

About a foot high, distinguished from the last by the narrow convolute leaves, and absence of a long beak.

22. *C. distans*, (*loose Sedge*,) bracteas foliaceous; sheaths length of the peduncles; fertile spikes oblong, erect, distant; glume mucronate; fruit ovate, subtriquetous, depressed; beak short, bifid. E. B. t. 1234, and also 1235. (*C. binervis*.)

HAB. Marshy places, frequent. Chudleigh, Haldon, Bovey Heathfield, &c. Fl. June. 24

1-2 feet high, slender; spikes on longish peduncles, very distantly placed.

23. *C. præcox*, (*early Sedge*,) sheaths shorter than the peduncles; fertile spikes oblong, approximate; glume ovate; fruit obovate, subtriquetrous, acute, pubescent. E. B. t. 1099. Huds. Fl. Ang. 408. (*C. saxatilis*.)

HAB. Dry heaths, &c. common. Fl. April, May. 24

Root creeping; culm 3-12 inches high; leaves short, broadish; bracteas small, foliaceous.

24. *C. pilulifera*, (*round-headed Sedge*,) bracteas small, subfoliaceous; fertile spikes sessile, roundish, approximate; fruit globose, acute, pubescent. E. B. t. 885.

HAB. Marshy places, common. Fl. May, June. 24

Culm 6-12 inches high, slender, weak, scabrous; distinguished by the round pubescent capsules.

25. *C. panicea*, (*pink Carex*,) bracteas foliaceous; sheaths shorter than the peduncles; fertile spikes subcylindrical; fruit distant; subglobose, ovate, obtuse, glabrous, apex entire. E. B. t. 1505.

HAB. Marshy places, common. Fl. May, June. 24

Culm 12-18 inches high; leaves broadish, very glaucous, rough on the edge; glumes dark-brown, with a green keel; fruit greenish-brown.

26. *C. recurva*, (*glaucous Heath Sedge*,) bracteas subfoliaceous; sheaths 0; fertile spikes subcylindrical, drooping; fruit obovate, obtuse, rather downy; apex entire. E. B. t. 1506.

HAB. Wet pastures, &c. Bagtor Wood, Ilsington. Exwick Wood, near Exeter, Mr. Jacob. Fl. June. 24

About a foot high, with short, broadish, mostly radical leaves; 2 fertile sessile spikes, and closely placed brown capsules.

27. Culm with many sterile spikes.

27. *C. paludosa*, (*Bog Sedge*,) bracteas long, foliaceous; sheaths 0; sterile spikes with obtuse glumes; fertile spikes cylindrical, obtuse; glumes lanceolate; fruit oblong, ovate, acute, striate; point bifid. E. B. t. 807.

HAB. Wet places, frequent. Fl. May. 24

Root creeping; culm 2 or more feet high, with acute angles; leaves broad, erect, rough, keeled.

28. *C. riparia*, (*great Water-side Sedge*,) bracteas long, foliaceous; sheaths 0; sterile spikes with acuminate glumes; fertile spikes broadly cylindrical, acute; fruit ovate, point bifid. E. B. t. 579. Huds. Fl. Ang. (*C. acuta*,  $\omega$ .)

HAB. Topsham Marshes. About Exmouth, Mr. Jacob. Fl. April, May.  $\gamma$

Larger than the last, the leaves and spikes broader; but the best distinction is the acuminate glumes of the sterile spike.

29. *C. vesicaria*, (*Bladder Sedge*,) bracteas long, foliaceous; sheaths 0; fertile spikes cylindrical, slightly drooping; glumes lanceolate; fruit ovate, inflated, beaked; apex deeply bifid. E. B. t. 779. Huds. Fl. Ang. 412. (*C. inflata*.)

HAB. Banks of streams, &c. River Clyst; near Mary Clyst. Near Topsham. Chudleigh. Fl. May.  $\gamma$

Root creeping; culm  $1\frac{1}{2}$ -2 feet high, angularly acute; fruit large, shining, tawny.

30. *C. ampullacea*, (*small Bladder-Sedge*,) bracteas foliaceous; sheaths 0; fertile spikes cylindrical, sub-erect; glumes lanceolate; fruit crowded, subglobose, inflated, beaked, apex slightly bifid. E. B. t. 780. Huds. Fl. Ang. 413. (*C. vesicaria*.)

HAB. Marshes, &c. frequent. About Lympstone. Fl. May, June.  $\gamma$

Differs from the last in the longer and more slender spikes, more numerous fl. and much smaller and differently shaped fruit.

31. *C. laxigata*, (*smooth-stalked Sedge*,) bracteas foliaceous, sheaths shorter than the peduncles; fertile spikes drooping, cylindrical; glumes all acuminate or mucronate; fruit ovate, triangular, with a long acuminate beak, bifid at the end. E. B. t. 1387.

HAB. About Lympstone, Miss Filmore. Fl. June.  $\gamma$

32. *C. hirta*, (*hairy Sedge*,) hairy; bracteas long, foliaceous, sheaths the length of the peduncles; fertile spikes short, cylindrical, distant; glumes cuspidate; fruit ovate, hairy, beak long. E. B. t. 685.

HAB. Wet pastures, frequent. Fl. May, June.  $\gamma$

Root creeping; culm 1-2 feet high; whole plant more or less hairy.

33. *C. filiformis*, (*slender-leaved Sedge*,) glabrous; bracteas foliaceous, long, narrow; sheaths 0; fertile spikes on short peduncles, oblong, cylindrical; glumes subcuspidate; fruit ovate, woolly, beak short, bifid at the end. E. B. t. 904.

HAB. Near some old clay pits, by Teignbridge. Fl. June.  $\gamma$

12-18 inches high, with slender involute leaves.

7. KOBRESIA.

1. *K. caricina*, (*Carex-like Kobresia*,) spike contracted, sub-ovate; spikelets alternate, imbricate, upper one sterile. Comp. Fl. Brit. Persoon Syn. 534. E. B. t. 20. 1410. (*Sclænus monoicus*.)

HAB. Broad Clyst Heath. Haldon, plentiful, Mr. Jacob. Fl. July. ♀  
Root scaly; culm 9 inches high, erect; leaves narrow, recurved; bractæ ovate, membranaceous, brown; spike erect, glumes brown, margin white.

III. TETRANDRIA.

8. LITTORELLA.

1. *L. lacustris*, (*Plantain Shoreweed*.) E. B. t. 468.

HAB. Bovey Heathfield. Sandy Plat, near Widdicombe-in-the-Moor. Bogs on Woodbury Hill. Haldon, Mr. Jacob. Fl. June, July. ♀  
Leaves all radical, linear, fleshy, semi-cylindrical; sterile florets on scapes of 2-3 inches in length; fertile florets 2-3 together at the base of the leaves. Allied to *Plantago*, but the stamens and pistils being in different flowers, and the fruit different, it is sufficiently distinguished from that genus.

9. ALNUS.

1. *A. glutinosa*, (*common Alder*,) leaves roundish, cuneiform, obtuse, lobed and serrate; axils of the ribs villose beneath. Gært. Sem. et Fr. 2. 54. E. B. t. 1508. and With. Bot. Arr. 206. (*Betula alnus*.)

HAB. Wet, swampy places, common. Fl. March. ♀  
A common tree. The wood useful for piles of bridges, &c. having the property of remaining undecayed for a great length of time under water. Sterile catkins long, pendent on branched peduncles; fertile ones small, ovate, with deep-red persistent scales.

10. URTICA.

1. *U. urens*, (*small Nettle*,) leaves opposite, elliptical, 3-5 ribbed; flowers in nearly simple clusters. E. B. t. 1236.

HAB. Waste places, frequent. Fl. June—October. ☉  
A foot or more high, root fibrous; leaves light-green; clusters androgynous.

2. *U. dioica*, (*great Nettle*,) leaves ovate, acuminate, cordate; fl. much branched, binate, mostly diœcious clusters. E. B. t. 1750.

HAB. Waste places, &c. common. Fl. July, August. ♀  
3 or more feet high, dark-green, with a creeping root.

## IV. POLYANDRIA.

## 11. CERATOPHYLLUM.

1. *C. demersum*, (*Hornwort*,) fruit with 3 spines. E. B. t. 947. Gray Nat. Arr. 554. (*C. cornutum*.)

HAB. River Clyst, by Clyst Bridge. Fl. July. 24

Plant floating under the surface; stem long, slender, much branched; leaves whorled, di-trichotomous, linear, setaceous, distantly serrate; flowers in the axils of the leaves, small, whorled; fruit with 3 unequal spines.

## 12. MYRIOPHYLLUM.

1. *M. spicatum*, (*spiked Water Milfoil*,) sterile flowers in a leafless, interruptedly whorled spike; fertile flowers axillary. E. B. t. 83.

HAB. In streams, frequent. River Exe, in different places; Mill Stream, at Fingle Bridge, near Moreton; River Bovey, at North Bovey. Fl. July, August. 24

Stem slender, much branched; leaves 4 in a whorl, pectinate, submersed; spike single, 2-3 inches long; flowers small, reddish; anthers yellow.

## 13. SAGITTARIA.

1. *S. sagittifolia*, (*common Arrow-head*,) leaves sagittate, lanceolate, acute. E. B. t. 84.

HAB. River Clyst, near Bishop's Clyst Bridge. Fl. July, August. 24

Leaves all radical, the first strap-shaped, submersed, the succeeding ones arrow-shaped, reticulately veined: scape 6-angled; flowers 3 in a whorl, white.

## 14. ARUM.

1. *A. maculatum*, (*Cuckow Pint*,) leaves all radical, hastate, sagittate, lobes deflexed; spadix club-shaped, obtuse, shorter than the spatha. E. B. t. 1298.

HAB. Woods and sheltered hedges, common. Fl. May. 24

Roots tuberous, fleshy; leaves large, shining, mostly spotted, black; spatha large, more or less convolute; spadix purplish; berries sessile, crowded, bright-scarlet.

## 15. POTERIUM.

1. *P. sanguisorba*, (*common Burnett*,) stem angular, unarmed; stam. much longer than the cal. E. B. t. 860.

HAB. Hills and dry pastures, frequent. Chudleigh, Ashburton, Teignmouth, Usington, Marychurch, &c. Fl. July. 24

Leaves pinnate; leaflets ovate, serrate, glabrous; peduncles terminal; flowers dull-purple, in heads, sterile flowers mostly at the base, fertile ones at the end; stigma large, radiate, exserted.



## 16. QUERCUS.

1. *Q. robur*, (*common British Oak*,) leaves deciduous, subsessile, broader above, sinuated and lobed, sinuses rather acute, lobes obtuse; fr. on elongated peduncles. E. B. t. 1342.

HAB. Woods, &c. Fl. April, May. ♀

2. *Q. sessiliflora*, (*sessile fruited Oak*,) leaves deciduous, petiolate, oblong, sinuated and lobed; sinuses rather acute, lobes obtuse; fr. sessile. E. B. t. 1841.

HAB. Woods, less common than the last. Court Wood, Islington; Buckland Woods, near Ashburton; Holne Chace; Woods about Ivy Bridge. Fl. April, May. ♀

The leaves are more equally and regularly lobed than the last, but the sessile fruit is the main distinction; its wood has also been stated to be of an inferior quality. There is a var. *Q. sessiliflora* β. Fl. Brit. 1027, with the leaves pubescent beneath, (the *Durmast Oak* of Martyn Fl. Rus. 12.) The *Jucombe Oak* seems to have been a variety of *Q. robur*, retaining its leaves through the winter. For an account of this last var. see Evelyn's *Sylva*, by Hunter, vol. i. p. 74. likewise the 62d vol. of *Philos. Trans.*

## 17. CASTANEA.

1. *C. vulgaris*, (*Chesnut*,) leaves oblong, lanceolate, mucronately serrate, glabrous on both sides. Ray Synop. 440. Gært. Fr. et Sem. pl. 37. (*C. vesca*.) E. B. t. 886. (*Fagus castanea*.)

HAB. Woods, &c. Fl. May. ♀

This appears to be hardly an indigenous British tree; however, Evelyn in his *Sylva*, (Hunter's edit. vol. i. p. 160,) states that a good part of the ancient houses in London were built with it, and makes no doubt of its being a native.

## 18. FAGUS.

1. *F. sylvatica*, (*Beech-tree*,) leaves ovate, glabrous, slightly toothed, margins ciliate. E. B. t. 1846.

HAB. Woods, &c. Fl. April, May. ♀

## 19. BETULA.

1. *B. alba*, (*common Birch-tree*,) leaves ovate, deltoid, acute, doubly serrate, glabrous. E. B. t. 2198.

HAB. Woods and hedges. Fl. April, May. ♀

There is a variety with pendulous warty branches, and smaller leaves.

## 20. CARPINUS.

1. *C. betulus*, (*Horn-beam*,) fr. scales oblong, serrate, 2 lateral lobes smaller. E. B. t. 2302.

HAB. Woods and plantations. Fl. May. ♀

A small hardy tree, with ovate, doubly serrate, acute petiolate leaves, finely plaited before expansion. The wood white, tough, and hard, burning like a candle.

## 21. CORYLUS.

1. *C. avellana*, (*Hazel Nut*,) leaves obovate, cordate, acuminate; stipules oblong, obtuse; invol. of the fruit campanulate, torn at the margin. E. B. t. 723.

HAB. Woods and hedges, common. Fl. March, April. ♀

Leaves expand after the flowers; sterile flowers in pendulous catkins; fertile buds ovate, with deep-red projecting styles. The *Pilbert* is a cultivated variety of this.

## XXII. DICECIA.

## I. DIANDRIA.

## 1. SALIX.

1. *S. purpurea*, (*purple Willow*,) stem decumbent, monandrous; leaves obovate, lanceolate, serrate, glabrous; stigma subsessile. E. B. t. 1388. With. Bot. Arr. 45. (*S. monandra*.)

HAB. Sides of streams, occasionally. Fl. March. ♀

Branches deep-purple, tough; leaves glaucous beneath, very bitter; capsule silky. *S. helix*, E. B. t. 1343. and *S. lambertiana*, E. B. t. 1359, are varieties of this, with slight differences in the shape of the ovary and stigma.

2. *S. rubra*, (*green Osier*,) leaves linear-lanceolate, serrate, glabrous, green on both sides; stam. united at the base; style elongated; caps. ovate, sessile, pubescent. E. B. t. 1145.

HAB. In willow grounds, frequent. Fl. April, May. ♀

Branches very long and tough; leaves 4-5 inches long. One of the most valuable of the tribe.

3. *S. triandra*, (*triandrous Willow*,) leaves lanceolate, serrate, glabrous; stigma sessile, bifid; caps. ovate, pedicelled, glabrous. E. B. t. 1345. and E. B. t. 1936. (*S. amygdalina*.)

HAB. Willow beds. About Totness. About Whimble and Tallaton, Rev.

R. P. Welland. Fl. April, May. ♀

Stipules ovate, oblique, glabrous; stamens mostly 3, rarely 2; caps. brown, pointed. A useful osier.

4. *S. Russelliana*, (*Bedford Willow*,) leaves lanceolate, ser-

rate, glabrous; style elongated; stigma bifid; caps. pedicelled, subulate, glabrous. E. B. t. 1808.

HAB. Wet places, occasionally. About Chudleigh. Fl. April, May. ♀

A tree with tough, flexible branches, long shining leaves, lanceolate narrow scales, and long lax catkins.

5. *S. fragilis*, (*Crack Willow*,) leaves ovate, lanceolate, acute, serrate, glabrous; scales pubescent and ciliate; style elongated; stigma bifid; caps. ovate, shortly pedicelled. E. B. t. 1807.

HAB. Marshes below Clyst Bridge. Fl. April, May. ♀

A largish tree, with very brittle branches, 3-5 stamens, and lax catkins.

6. *S. repens*, (*creeping dwarf Willow*,) stem procumbent; leaves elliptical, lanceolate, acute, entire, glaucous, and silky beneath; styles short; stigma bifid; caps. pedicelled, lanceolate, silky. Hook. Fl. Scot. 284. E. B. t. 183.

β. stem ascending; leaves subserrate; stipules serrate. E. B. t. 1692. (*S. ascendens*.)

γ. Stem decumbent; leaves subentire; stipules entire. E. B. t. 1961. (*S. parvifolia*.)

δ. Petioles attenuated; leaves somewhat toothed. E. B. t. 1950. (*S. fusca*.)

ε. Branches with a silvery silkiness; leaves entire, somewhat revolute; point recurved. E. B. t. 1364. (*S. argentea*.)

Mr. Anderson observed *S. prostrata* near Chudleigh. It appears to be only a variety of *S. repens*.

HAB. Wet moors and marshes. Bovey Heathfield, Woodbury Hill, &c. Fl. April, May.

A small, mostly procumbent shrub, with numerous longish straight branches, the leaves varying occasionally in form, &c.

7. *S. cinerea*, (*grey Willow*,) leaves obovate, lanceolate, margins slightly recurved; beneath, glaucous, pubescent, reticulated with veins; stipules semi-cordate; style short; stigma mostly entire; caps. pedicelled, lanceolate, silky. E. B. t. 1897, and 1437. (*S. aquatica*,) and 1402. (*S. oleifolia*.)

HAB. Wet woods and hedges, common. Fl. April. ♀

A tree with rugose leaves and short dense catkins. The most common of the genus, and of little value.

8. *S. aurita*, (*round-eared Willow*,) leaves obovate, subserrate, villous on both sides, reticulately veined, with a recurved point; stipules roundish; stigma sub-sessile, mostly entire; caps. pedicelled, lanceolate, subulate, silky. E. B. t. 1487. Huds. Fl. Ang. 430. (*S. caprea*. ♂ & ♀.)

HAB. About Chudleigh, Mr. Anderson. Coombe Farm, Lympstone. Fl. May. ♀

A shrub with straggling entangled branches, differing from the last, of which perhaps, it is a variety, in the shorter, more veiny, and decidedly toothed leaves.

9. *S. caprea*, (*great round-leaved Willow*,) leaves ovate, acute, serrate, undulated at the margin; stipules crenate; stigma sessile, entire; caps. pedicelled, lanceolate, silky. E. B. t. 1488.

HAB. Woods and hedges in dry situations, common. Fl. April, May. ♀

A tree with variously shaped leaves, waved and veined beneath; the catkins broader and shorter than in most of the other species. The flowers crowded, and appearing before the leaves.

10. *S. acuminata*, (*long-leaved Willow*,) leaves lanceolate, oblong, waved, slightly toothed, downy beneath; stipules reniform; caps. ovate, tapering, pubescent. E. B. t. 1434.

HAB. Woods and hedges, frequent. Near Courtland Lodge. Fl. April. ♀

Stem leaves, and catkins, longer and narrower than in the last.

11. *S. mollissima*, (*velvet Osier*,) leaves lanceolate, obscurely crenate, white and silky beneath; stipules small, crenate; style elongated; stigma linear, mostly entire; caps. lanceolate, silky, shortly pedicelled. E. B. t. 1509.

HAB. Near Teignmouth, Mr. Anderson. Fl. March, April. ♀

Catkins small, not useful as an osier.

12. *S. viminalis*, (*common Osier*,) leaves linear, lanceolate, obscurely crenate, white, and silky beneath; stipules very small, lanceolate; style elongated; stigma linear, mostly entire; caps. subsessile, lanceolate, silky. E. B. t. 1898.

HAB. Wet situations, frequent. Fl. April, May. ♀

The long pliant twigs make this species one of the most useful of the tribe for basket-work.

13. *S. stipularis*, (*auricled Willow*,) leaves lanceolate, indistinctly crenate, white and downy beneath; stipules large, semicordate, acute; style rather elongated; stigma awl-shaped, recurved, entire; caps. ovate, downy, shortly pedicelled. E. B. t. 1214.

HAB. Osier beds. Fl. March. ♀

The specific differences between the 3 last enumerated species are very slight. The germens and long stigmas agree in all, and by these they are easily distinguished from any other species of the genus.

14. *S. alba*, (*common white Willow*,) leaves elliptical, lanceolate, acute, serrate, serratures glandular, mostly silky on both sides; stigma subsessile, short, recurved, bifid; caps.

subsessile, ovate, acuminate, glabrous. E. B. t. 2430. and t. 2431. (*S. caerulea*.)

HAB. Woods, &c. frequent. Fl. April, May.  $\frac{1}{2}$

A quick-growing tree, with numerous branches, and long slender terminal catkins. The greater or less silkiness of the leaves is variable, and on this difference the *S. caerulea* of Eng. Bot. rests.

Note.—56 British species of *SALIX* have been enumerated; 24, including those we consider varieties, are here arranged; of the remaining 32, at least half will probably prove varieties.

## II. TRIANDRIA.

### 2. RUSCUS.

1. *R. aculeatus*, (*Butcher's-Broom*,) stem rigid, branched; leaves ovate, mucronate, pungent; fl. solitary on the upper surface of the leaf. E. B. t. 560.

HAB. Harford Wood, three miles from Sidmouth. Cliffs at Marychurch, and Cockington Wood, Rev. A. Neck. Fl. March, April.  $\frac{1}{2}$

Erect, smooth, with sessile dark-green leaves; small white flowers on the disk of the leaf, and red berries.

## III. TETRANDRIA.

### 3. VISCUM.

1. *V. album*, (*Misseltoe*,) stem dichotomous; leaves lanceolate, obtuse; fl. in axillary heads. E. B. t. 1470.

HAB. In an orchard at Holcombe Rogers, on the borders of Somersetshire, Rev. A. Neck. Fl. May.

Plant parasitic; flowers yellowish-green; berry white, furnishes the bird-lime.

### 4. MYRICA.

1. *M. gale*, (*sweet Gale*,) stem shrubby; leaves lanceolate, broader above, serrate. E. B. t. 562.

HAB. In swampy situations, occasionally. Bovey Heathfield, near the Coal Pits; Ilington, Manaton, Ashburton, Holne, &c. May.  $\frac{1}{2}$

Whole plant fragrant; leaves subsessile, bitter; catkins sessile.

## IV. PENTANDRIA.

### 5. HUMULUS.

1. *H. lupulus*, (*wild Hop*,) E. B. t. 427.

HAB. Hedges, frequent. Chudleigh, Ilington, Bickington, Bovey Tracey, North Bovey, Marychurch, &c. Fl. June, July.  $\frac{1}{2}$

Weak climbing rough stems; opposite, petioled, lobed and serrate leaves, and greenish-yellow flowers.



## V. HEXANDRIA.

## 6. TAMUS.

1. *T. communis*, (*black Bryony*,) leaves cordate, acute, undivided. E. B. t. 91.

HAB. Woods and hedges, common. Fl. June. 24

Root very stout; stem round, smooth, twining; leaves dark shining green, varying in shape; flowers greenish; berries red.

## VI. OCTANDRIA.

## 7. POPULUS.

1. *P. alba*, (*white Poplar*,) leaves cordate, roundish, lobed, toothed, glabrous above; very white and downy beneath; catkins ovate. E. B. t. 1618.

HAB. Woods and plantations. Fl. March. 12

A large tree, with smooth bark and spreading branches.

2. *P. canescens*, (*grey Poplar*,) leaves roundish, angularly repand, toothed, villous beneath; catkins cylindrical, lax. E. B.

HAB. Road-side, leading to Exeter, two miles from Honiton, Rev. J. Jervis, in whose herbarium specimens are preserved. Fl. March. 12

3. *P. tremula*, (*Ashpen*,) leaves suborbicular, broadly toothed, on both sides glabrous. E. B. t. 1909.

HAB. Woods and plantations. Fl. March, April. 12

A tallish tree, with tremulous leaves, on compressed footstalks.

4. *P. nigra*, (*black Poplar*,) leaves deltoid, acute, serrate, on both sides glabrous; fertile catkins lax, cylindrical. E. B. t. 1910.

HAB. Woods and plantations. Fl. March, April. 12

A tall, formal, erect tree, of rapid growth.

## VII. ENNEANDRIA.

## 8. MERCURIALIS.

1. *M. perennis*, (*perennial Mercury*,) root creeping, perennial; stem quite simple, leaves rough. E. B. t. 1872.

HAB. Woods and hedges, common. Fl. April, May. 24

Stem 12-18 inches high; leaves ovate, serrate, mostly on the upper part of the stem; flowers in lax axillary spikes; caps. rough, hairy.

## 9. HYDROCHARIS.

1. *H. morsus ranæ*, (*Frog-bit.*) E. B. t. 808.

HAB. Ditches at Exminster and Powderham. Fl. July. 2.

Plant floating; leaves petioled, reniform, entire, with reticulated veins; flowers largish.

## XXIII. POLYGAMIA.

## I. MONŒCIA.

## 1. ATRIPLEX.

1. *A. hortulacoides*, (*shrubby Sea-Orache*,) stem shrubby; leaves opposite, obovate, lanceolate, entire, silvery white. E. B. t. 261.

HAB. On the sea-shore. Fl. July, August. 1.

2 or more feet high, quadrangular, with axillary racemes of small yellowish flowers.

2. *A. laciniata*, (*frosted Sea-Orache*,) stem herbaceous, diffuse; leaves deltoid, sinuated, toothed, silvery beneath. E. B. t. 165.

HAB. Along the sea-shore, frequent. Exmouth, Teignmouth, &c. Fl. July. ☉

Plant spreading, hoary; flowers axillary, crowded, 2 or 3 together; fruit ribbed, toothed.

3. *A. patula*, (*halbert-leaved Orache*,) stem herbaceous, spreading; leaves triangular, hastate, irregularly toothed, glabrous above, upper ones entire. E. B. t. 936. Huds. Fl. Ang. 443. (*A. hastata*.)

HAB. Waste places, and along the sea-side, common. Fl. July. ☉

A straggling plant, with long striate branches, and small clusters of flowers, in long, interrupted, axillary spikes; the perianth of the fruit tuberculated at the base.

4. *A. angustifolia*, (*narrow-leaved Orache*,) E. B. t. 1774. is only a variety of the last, with narrower leaves.

## XXIV. CRYPTOGRAMIA.

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The orders, genera, and species of this strictly Natural Class, will be found in that part of the volume where the plants are arranged according to the Natural method.

## **PART II.**

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### **ARRANGEMENT OF THE PLANTS**

**ACCORDING TO**

### **THE NATURAL METHOD.**





ARRANGEMENT  
OF THE  
ORDERS AND GENERA.

---

I. ACOTYLEDONS.

Stamens and pistils 0. Embryo simple, without cotyledon or albumen.

a. *With a simple cellular structure.*

I. EPIPHYTÆ.

Plants composed merely of naked sporidia,\* or of sporidia mixed with a minute pulverulent mass.

1. CYLINDROSPORIUM. Sporidia cylindrical, truncate, jointless, naked, free, clustered in small heaps, (minute plants, parasitic on the surface of living leaves.)—P. 1.

II. BYSSOIDEÆ.

Filamentous plants, the filaments mostly minute, simple, or branched, mostly tubular and articulated, and producing their fructification externally.

2. PENICILLUM. With tufted, pellucid filaments, the sterile ones procumbent, the fertile ones erect, with a terminal, pencil-like tuft of erect ramuli, to which the sporidia are attached.—P. 1.
3. ASPERGILLUS. With tufted, or scattered pellucid filaments, apex of the main filament mostly clavate, and bearing a head of sporidia, (which are often bearded.)—P. 1.

\* *Sporidia*, small receptacles inclosing the seeds or sporules.

## III. GASTROMYCI.

The plants of this order have the sporules,\* or sporidia, inclosed in one or more coverings (peridia), the whole, which has been termed a sporangium,† generally constituting the entire plant.

DIV. 1. *Plants of a soft gelatinous substance, uniform, solid, even, or variously folded. Sporules immersed in the substance.*

4. TREMELLA. The only genus in the division, the character is consequently the same.—P. 1.

DIV. 2. *Parasitic plants formed under the epidermis of the leaves, stems, or other parts of vegetables, and bursting through it. Sporidia never mixed with filaments.*

5. PUCCINEA. With a pseudo-peridium formed of the epidermis of the leaf. Sporidia pedicellate, 1 or many-celled.—P. 2.
6. UREDO. With a pseudo-peridium formed of the epidermis. Sporidia 1-celled, free, mostly globose.—P. 3.
7. ÆCIDIUM. With a true, membranous peridium, bursting through the epidermis, and opening with a dentated or lacinated orifice. Sporidia free.—P. 4.

DIV. 3. *Plants minute, sessile, or pedicellate, membranaceous or gelatinous, mostly of a roundish form. Sporidia not mixed with filaments.*

8. ERINEUM. Peridia flocciform, subdiaphanous, sub-simple, aggregato-cæspitose. Sporules rarely evident. (Parasitic on living leaves.)—P. 5.

DIV. 4. *Sessile or stipitate, variously formed plants, with membranaceous or coriaceous peridia; and sporules intermixed with filaments.*

\* *Sporules* is the term given to the seeds of cryptogamic plants, which are destitute of cotyledon, radicle, and plumule, and strike root indifferently from any part of their surface.

† *Sporangium* is analogous to the fruit in phænogamous plants.

τ. *Very small plants, with a delicate and mostly fugacious peridium.*

9. LYCOGALA. Sessile, globose, or irregularly pulpy, in a young state. Peridium single, fragile, variously bursting.—P. 6.
10. TRICHIA. Subglobose or irregular. Peridium single, membranaceous, bursting. Filaments involute, fixed to the base, and expanding elastically.—P. 6.
11. ARSCYRIA. Mostly cylindrical. Peridium fugacious, except at the base. Filaments numerous, reticulated, fixed to the base.—P. 6.

ττ. *Large plants, with a thickish, more durable, and often warty peridium.*

12. LYCOPERDON. Sporangium globose. Peridium single, membranaceous, scaly, with warts or spines bursting irregularly at the apex.—P. 6.
13. SCLERODERMA. Sporangium globose, or tapering into a stipes. Peridium single, coriaceous, mostly warty. Sporules collected in small, distinct, contiguous globules.—P. 6.
14. BOVISTA. Sporangium globose. Peridium double, the outer adnate, cracking, and rather fugacious.—P. 7.
15. CYATHUS. Cup-shaped, closed at first by a membrane, afterwards open, inclosing lenticular vesicles.—P. 7.

DIV. 5. *Solid, fleshy, or corneous. Sporangia without filaments.*

16. SCLEROTIUM. Sporangium? subglobose, or irregular, homogeneous within, (the sporules are unknown.)—P. 8.
17. TUBERCULARIA. Sporangium subglobose, sessile, or sub-stipitate, carnos-vesiculose, (not gelatinous.) Sporidia towards the circumference, (the colour is mostly red.)—P. 8.

#### IV. FUNGI.

Fructification. Sporules included in a series of elongated tubular cells; the cells situated in some part of the external surface.

The plants of this order differ much in habit. In substance, they are mostly fleshy; but some are coriaceous, and others almost woody. In structure, they are mi-

nutely filamentous; in colour they vary much, but are rarely green, and rarely (or never?) aquatic; the whole plant may be considered merely as a general receptacle for the fructification.

#### DIV. 1. AGARICOIDEÆ.

*With a pileus\* or cap; the hymenium† composed of straight radiating lamellæ.*

18. AMANITA. Pileus, with a central stipes and volva.‡—P. 8.
19. AGARICUS. Pileus, with a central stipes, or laterally attached. Volva 0.—P. 8.

#### DIV. 2. CANTHARELLIDEÆ.

20. CANTHARELLUS. Hymenium with dichotomous, subparallel veins, occasionally anastomosing.—P. 16.
21. MERULIUS. Hymenium with flexuose veins, sometimes forming very irregular pores, (sessile, resupinate, or effused plants.)—P. 16.

#### DIV. 3. BOLETOIDEÆ.

*Hymenium more or less regularly tubular or porous.*

22. DÆDALEA. Hymenium composed of anastomosing lamellæ, that form flexuose elongated pores.—P. 16.
23. POLYPORUS. Sessile. Hymenium porous; the pores not separable from the pileus, nor from each other.—P. 17.
24. BOLETUS. On a central stipes. Hymenium tubular. Tubes separable from the pileus, and from each other.—P. 18.

#### DIV. 4. HYDNOIDEÆ.

*Hymenium composed of soft subulate spines.*

25. HYDNUM. (Char. that of the division.)—P. 19.

#### DIV. 5. THELEPHORIDEÆ.

*Hymenium an expanded, warty, papillose, smooth, or minutely hairy surface.*

26. THELEPHORA. Plant mostly adnate, thin, coriaceous. Hymenium covering the outer surface.—P. 19.

\* *Pileus*, an expansion of the stipes, usually hemispherical or conical.

† *Hymenium*, that part of the pileus that contains the sporules.

‡ *Volva* or wrapper, a membranaceous envelope surrounding the whole plant when quite young.



## DIV. 6. CLAVÆFORMES.

*Erect, filiform or clavate, simple or branched, fleshy plants. Hymenium smooth, occupying more or less of the whole surface.*

27. CLAVARIA. Simple, or branched. Hymenium cylindrical, confluent with the stipes.—P. 20.  
 28. GEOGLOSSUM. Hymenium short, clavate, stipitate.—P. 21.

## DIV. 7. HELVELLOIDEÆ.

*Pileus on a distinct stipes; hymenium on the outer surface.*

29. LEOTIA. Pileus ovato-conical, or orbicular; margin free, but closely embracing the stipes. Hymenium occupying the whole surface.—P. 21.  
 30. HELVELLA. Pileus irregular, deflexed at the sides, both surfaces smooth. Hymenium occupying the whole of the outer one.—P. 21.  
 31. PHALLUS. Stipes springing from a volva. Pileus cellular. Cells filled with a sporuliferous slimy substance.—P. 21.

## DIV. 8. PEZIZIDEÆ.

*Sessile or stipitate plants, more or less cup-shaped. Hymenium occupying the upper surface.*

32. PEZIZA. Pileus mostly fleshy, sessile, or stipitate.—P. 21.

## V. HYPOXYLA.

Fructification. Spherules\* containing sporules, and a sporuliferous pulp. They are either free, and forming the entire plant, or seated on the surface of a corneous receptacle, (stroma,) or contained within it.

The plants of this order are mostly suberose and corneous, and (with few exceptions) of a black colour; they are for the most part parasitic on decayed branches or leaves.

\* *Spherules*, globular receptacles, generally opening at the tip.



τ. *Spherules with a stipitate receptacle.*

33. XYLARIA. Recept. simple, fleshy, or corky, containing a gelatinous sporuliferous mass.—P. 23.

ττ. *Spherules with a sessile receptacle.*

34. STROMATOSPHERIA. Recept. free, or bursting from beneath the bark of dead wood. Spherules immersed.—P. 23.
35. CUCURBITARIA. Recept. bursting through the bark. Spherules tufted, free, fixed on the receptacle.—P. 23.

τττ. *Spherules, or perithecia, naked and sessile.*

36. CRYPTOSPHERIA. Spherules scattered, or aggregated, lying beneath the bark or epidermis, orifice more or less exserted.—P. 23.
37. SPHERIA. Spherules sessile, or slightly immersed.—P. 24.
38. NÆMASPORA. Spherules sub-immersed. Sporuliferous mass discharged in the form of tendrils.—P. 24.
39. PHACIDIUM. Perithecia sessile, bursting in many acute segments, from the centre towards the margin. Sporuliferous cells fixed, elongated.—P. 24.
40. HYSTERIUM. Perithecia mostly oblong, black, horny, bursting by a longitudinal slit. Sporuliferous tubes erect. (This resembles *Opegrapha*, but is destitute of crust.)—P. 25.
41. XYLOMA. Perithecia minute, solitary, or united and confluent, black, corneous, opening irregularly.—P. 25.

## VI. LICHENES.

Thallus, crust or frond\* polymorphous. Sporidia inclosed in apothecia† of various construction. They bear a closer affinity to the *Fungi*, than any other order, and arrange in three divisions:

1. IDIOTHALAMI. *Apothecia formed of a distinct substance, and differing in colour from the thallus.*

\* *Frond*, universal receptacle.

† *Apothecia*, partial receptacle, shields, tubercles, &c.

2. CENOTHALAMI. *Apothecia formed partly of the thallus; partly of a distinct substance, differing in colour.*
3. HOMOTHALAMI. *Apothecia formed wholly of the thallus, and of the same colour.*

## DIV. 1. IDIOTHALAMI.

1. *Apothecia not margined.*

42. SPILOMA. Thallus crustaceous, plane, adnate. Apothecia formed of minute granules, collected into a naked, compact, variously-shaped, coloured mass.—P. 25.
43. ARTHONIA. Thallus crustaceous, plane, adnate. Apothecia black, sub-immersed, of a roundish, irregular form, covered with a subcartilaginous membrane.—P. 25.
44. ENDOCARPON. Thallus crustaceous, plane, adnate, of some determinate figure; or foliaceous and peltate. Apothecia globose, concealed within the substance of the thallus. Perithecium\* single, diaphanous, with a subpapilliform, thick orifice, including a nucleus of the same substance.—P. 32.
45. VERRUCARIA. Thallus crustaceous, plane, adnate, uniform. Apothecia globose, hemispherical, its base immersed in the thallus. Perithecium double; exterior subcartilaginous, thick, black, closing the upper half, tipped with a small prominent orifice; interior very thin, membranous, including a subglobose cellular nucleus.—P. 31.

2. *Apothecia with a raised margin.*

46. LECIDEA. Thallus variable, crustaceous, adnate, uniform. Apothecia scutelliform, sessile, covered with a cartilaginous membrane.—P. 26.
47. CALICIUM. Thallus crustaceous, plane, adnate, uniform. Apothecia cup-shaped, cartilaginous, sessile or stipitate, containing a compact, pulverulent mass, forming a plane or convex disk.—P. 28.
48. GYROPHORA. Thallus foliaceous, cartilaginous, peltate, free beneath. Apothecia sub-scutelliform, sessile, adnate, covered with a black cartilaginous membrane, the disk warted, or meanderingly plaited.—P. 28.

\* *Perithecium*, the peculiar receptacle, skin, or covering, containing the nucleus.

49. **GRAPHIS.** Thallus crustaceous, plane, adnate, uniform. Apothecia elongated, immersed in the thallus, the disk linear, naked.—P. 30.
50. **OPEGRAPHA.** Thallus crustaceous, plane, adnate, uniform. Apothecia elongated, sessile, covered with a black, cartilaginous membrane.—P. 29.

#### DIV. 2. CÆNOTHALAMI.

##### 1. *Apothecia included in wart-like processes, formed of the thallus. (PHYMATOIDEI.)*

51. **PORINA.** Thallus crustaceo-cartilaginous, plane, adnate, uniform. Apothecia (one or more) hid in the warts of the thallus, surrounded by a thin, diaphanous membrane; its orifice thicker, coloured, in the surface of the wart, and containing a subglobose cellular nucleus.—P. 32.
52. **THELOTREMA.** Thallus crustaceo-cartilaginous, plane, adnate, uniform. Apothecia solitary, included in the warts of the thallus (which have a wide pore, and are margined,) with a double coat; one dimidiate, superior, thick, black, (rarely wanting,) the other very thin and membranous, inclosing a compressed cellular nucleus.—P. 32.
53. **VARIOLARIA.** Thallus crustaceous, plane, adnate, uniform. Apothecia warted, formed of the thallus, somewhat margined, (white) concealing a compressed, cellular nucleus.—P. 33.

##### 2. *Apothecia scutelliform, subsessile, margined. (DISCOIDEI.)*

54. **LECANORA.** Thallus crustaceous, plane, adnate, uniform. Apothecia thick, sessile, adnate. Disk plano-convex, margin thickish, formed of the thallus.—P. 33.
55. **PARMELIA.\*** Thallus foliaceous, fibrous beneath. Apothecia submembranaceous, the under part and margin formed of the thallus, free. Disk concave.—P. 35.
56. **BORRERA.** Thallus cartilaginous, branched, and lacinated, the segments free, (mostly channelled beneath, and

\* *Pulvinuli* (branched tubercles, or shapeless masses, cohering together like little shrubs or globes, formed of the substance of the thallus, and usually black or dark-green) are found on some species of this and other genera.



- ciliated at the margin.) Apothecia thick; the under part and inflexed margin formed of the thallus.—P. 38.
57. *CETRARIA*. Thallus leaf-like, ascending or spreading, lobed and laciniated, smooth on each side. Apothecia obliquely joined to, and with an inflexed margin formed of, the thallus. The disk plano-concave.—P. 39.
58. *STICTA*. Thallus foliaceous, lobed, free, and pubescent beneath, with hollow spots, (*cyphels*.) Apothecia, the margin and under part formed of the thallus, appressed, free. The disk plane.—P. 39.
59. *PELTIDEA*. Thallus foliaceous, coriaceous, sub-adnate, lobed, with woolly veins beneath. Apothecia orbicular, obliquely adnate, formed on the upper side of a produced portion of the under surface of the thallus, and with a thin elevated margin of the same.—P. 40.
60. *NEPHROMA*. Thallus foliaceous, lobed, free, naked or hairy beneath. Apothecia reniform, adnate, plane, formed on the under side of a produced portion of the upper surface of the thallus, and with a margin of the same.—P. 41.
61. *EVERNIA*. Thallus, sub-crustaceous, branched and laciniated, angular or compressed, with a central thread. Apothecia sessile. Disk concave. Margin inflexed, formed of the thallus.—P. 41.
3. *Apothecia subglobose on podetia,\* or sessile and immarginate.* (CEPHALOIDEI.)
62. *CENOMYCE*. Thallus foliaceous, laciniated, free, (rarely adnate, uniform, or wanting,) producing subfistulose, fertile, and sterile podetia. Apothecia capituliform, immarginate, inflated or hollow beneath, terminal. The circumference fixed to the podetia.—P. 41.
63. *BEOMYCES*. Thallus crustaceous, plane, adnate, with soft, solid podetia. Apothecia capituliform, immarginate, solid, terminal, sessile on the podetia.—P. 44.
64. *ISIDIUM*. Thallus crustaceous, plane, adnate, uniform, with short, solid podetia. Apothecia round, convex, growing nearly globular, solid, terminal on the podetia, which forms a margin round them.—P. 44.
65. *STEREOCAULON*. Thallus cartilaginous, shrub-like, branched. Apothecia turbinate, sessile, solid, plane,

\* *Podetia*, cylindrical elevations of the thallus.

margined, becoming hemispherically convex, dilated, reflexed below, and covering the margin.—P. 44.

66. *SPHÆROPHORON*. Thallus crustaceous, cartilaginous, Shrub-like, branched, solid. Apothecia subglobose, sessile, terminal on the branches of the thallus, and formed of it, breaking with a torn margin, and enclosing a black, powdery, globular mass.—P. 45.

#### DIV. 3. HOMOTHALAMI.

67. *ALECTORIA*. Thallus cartilaginous, filiform, branched, prostrate, or pendulous, with a central thread. Apothecia scutelliform, plane or convex, sessile, margined.—P. 45.
68. *RAMALINA*. Thallus cartilaginous, with a central thread, branched and laciniated, somewhat shrubby, mostly with Soredia.\* Apothecia scutelliform, pedicellate, subpeltate, plane, margined.—P. 45.
69. *CORNICULARIA*. Thallus cartilaginous, with a central thread, branched, shrub-like. Apothecia orbicular, obliquely peltate, terminal, at length convex and sub-inflated; circumference somewhat margined, subdentate, at length reflexed.—P. 46.
70. *USNEA*. Thallus subcrustaceous, rounded, branched, mostly pendulous, with a central elastic thread. Apothecia orbicular, terminal, peltate, immarginate, and mostly ciliated.—P. 47.
71. *COLLEMA*. Thallus homogeneous, subgelatinous, when dry becoming hard and cartilaginous, crust-like, leaf-like, or branched. Apothecia scutelliform, sessile, or slightly pedicellate, margined, (the disk of some species, when dry, coloured.)—P. 47.

#### VII. ALGÆ.

The plants of this order have either gelatinous, filamentose, membranous, or coriaceous fronds; they are propagated by sporules, either immersed, or more or less scattered through the substance of the frond, or inclosed in tubercles or processes formed from a continuance of it; or by gemmæ in a viviparous manner. Most of the species are aquatic, and subpellucid, and many of them float in the

\* *Soredia*, whitish powder collected in small heaps, apparently composed of unattached spore or seeds.



water unattached to extraneous substances; their colours for the most part are different shades of green, brown, or red.

*A. Plants filiform, articulated.*

**DIV. 1. CHÆTOPHOROIDEÆ.**

*With gelatinous, pellucid fronds, in which conferva-like, or beaded filaments are imbedded. The fructification for the most part imbedded in these filaments. (This is made a distinct order by Dr. Greville, in the Fl. Edinensis.)*

- 72. **PALMELLA.** Frond minute, subgelatinous, filled with solitary granules, unmixed with filaments.—P. 48.
- 73. **NOSTOC.** Frond olivaceous, bullate, filled with moniliform, simple, curved filaments, (the globules composing them separate, and become new individuals.)—P. 49.
- 74. **LINKIA.** Frond elongate or globose, gelatinous, with radiating, straight, simple filaments.—P. 49.
- 75. **CODIUM.** A spongiform, forked, spherical, or flat mass, containing tubular, continuous, intangled filaments. Fruc. granular in the tubes.—P. 49.
- 76. **CHÆTOPHORA.** A gelatinous, roundish, or elongated mass, filled with branched, articulated filaments.—P. 49.

**DIV. 2. CONFERVOIDEÆ.**

*Fronds membranous, tubular, jointed. Fructification, naked granules within the frond, or capsules.*

- 77. **DRAPARNALDIA.** Frond gelatinous; primary filaments bearing penicellate, fascicled branchlets.—P. 50.
- 78. **ZYGNEMA.** Filaments gelatinous, simple, equal; the articulations pellucid, inclosing granules, disposed in a spiral, or stellate manner. (*Conjugata* of Vaucher.)—P. 50.

*The filaments unite in pairs, by means of lateral tubes, which transmit the granules from the articulation of one to that of the other, where they form elliptical or spherical masses.*

- 79. **CONFERVA.** Filaments uniform, jointed, either simple or branched. The articulations filled with minute spores.—P. 51.

## DIV. 3. ECTOCARPOIDEÆ.

*Fronds filiform or capillary, membranaceous or subcoriaceous. Fructification, external tubercles, and occasionally innate ones at the ends of the branchlets.*

*τ. Olive-green, or brown.*

- 80. ECTOCARPUS. Filaments jointed, branched, fuscous. Fr. lanceolate pods, or ovate capsules.—P. 52.
- 81. SPHACELLARIA. Filaments jointed, olivaceous, distichous, or dichotomous. Branches sphacellate at the ends. Fr. granules in the sphacellated apex, or capsules.—P. 53.
- 82. CLADOSTEPHUS. Primary filaments solid, with whorled branchlets of a different structure at the joints. Fr. capsular.—P. 53.

*ττ. Red.*

- 83. GRIFFITHSIA. Filaments branched. Seeds immersed in a gelatine, and surrounded by an involucre.—P. 53.
- 84. CALLITHAMNION. Filaments jointed, branched; articulations with a broad, longitudinal, central line; joints pellucid. Fr. pedunculated capsules on the ramuli. P. 54.
- 85. CERAMIUM. Filaments composed of simple tubes, subdichotomous. Fr. capsules with an involucre of short ramuli.—P. 54.
- 86. POLYSIPHONIA. Tufted, branched; branches sub-fasciculate. Fr. ovate, reticulated capsules; and granules in pod-shaped branchlets.—P. 55.
- 87. ASPEROCAULON. Frond much branched, main stem hairy, opaque, not jointed; branches jointed. Fr. double, capsules, and lanceolate pods.—P. 56.

*B. Frond not articulated.*

## DIV. 4. ULVOIDEÆ.

*Plants with thin, cellular, submembranaceous fronds, which are either plane or tubular, containing immersed seeds, or bearing capsules, which are a continuation of it; or with small, dark tubercles sprinkled over the surface.*

a. *Fronds tubular.*

88. VAUCHERIA. Filaments dichotomous, or irregularly branched, somewhat rigid. Fr. a granulated, internal mass, and external dark-green vesicles, (frequently with hooked processes contiguous.)—P. 56.
89. OSCILLATORIA. Filaments membranaceous, gelatinous, continuous, filled internally with transverse parallel striæ.—P. 56.
90. SCYTONEMA. Filaments coriaceous, short, forming dense tufts, filled with transverse, annular sporangia.—P. 57.
91. BANGIA. Filaments capillary, sub-simple, continuous. Fr. granules arranged in regular transverse series.—P. 57.
92. NODULARIA. Root scutate, fronds rigid, torulose, sub-simple. Fr. oblong granules in the frond, (has externally, the appearance of being regularly jointed.)—P. 57.
93. FISTULARIA. Root scutate. Frond membranaceous, simple or branched. Fr. naked immersed granules, arranged in clusters of about 4.—P. 57.

b. *Fronds plane.*

94. ULVA. Root scutate, frond membranous, or gelatinous, having seeds scattered through its whole substance, in clusters of about 4.—P. 58.
95. ZONARIA. Root and stipes downy. Frond composed of longitudinal fibres. Caps. in linear, parallel lines.—P. 59.

## DIV. 5. FLORIDEÆ.

*Marine plants. The root scutate. Frond composed of interwoven, longitudinal fibres, its colour rosaceous, or purple. The fruc.: capsules, or immersed sporules, or both; without vesicles, or conferva-like hairs.*

96. PTILOTA. Frond compressed, pinnate, seeds naked, clustered, surrounded by a setaceous involucre.—P. 60.
97. ODONTHALIA. Frond linear, membranaceous, toothed. Fr. double; slender marginal pods, with a double row of granules, and axillary clusters of pedicelled, urceolate capsules.—P. 60.
98. SPHÆROCOCCLUS. Frond cartilaginous, nerveless. Fruc. uniform, capsular.—P. 60.

- 99. **DELESSERIA.** Frond plane, membranaceous. Fruc. of 2 kinds; capsules and naked seeds, dispersed in spots through the leaves.—P. 63.
- 100. **CHONDRIA.** Frond filiform, continuous, generally equal, branched. Fruc. of 2 kinds; capsules and naked seeds immersed in the branches.—P. 66.
- 101. **GIGARTINA.** Frond filiform, branched. Fr. of 2 kinds; Capsules and innate clusters of sporules in pod-shaped ramuli.—P. 68.

#### DIV. 6. FUCOIDEÆ.

*Plants with coriaceous, or cartilaginous fronds of a fibrous texture. Their colour olive-brown, changing to black. The fructification, capsules in proper receptacles, or sporules immersed in the frond.*

- 102. **CHORDARIA.** Frond filiform, seeds immersed in jointed, concentric filaments.—P. 69.
- 103. **SCYTOSIPHON.** Frond filiform, subcoriaceous. Fr. naked, pyriform granules, covering the whole frond.—P. 70.
- 104. **SPOROCHNUS.** Frond filiform; tubercles terminated by a tuft of jointed threads.—P. 70.
- 105. **SPONGIOCARPUS.** Frond filiform. Fr. naked, spongy, warts containing sporules, intermixed with radiating filaments.—P. 71.
- 106. **FURCELLARIA.** Frond filiform, its extremity swelling into closed pericarps.—P. 71.
- 107. **LICHINA.** Tubercles scutelliform, perforated at the apex, (the plants have a shrubby, licheniform habit.) —P. 71.
- 108. **CYSTOSEIRA.** Stipes cylindrical, lower leaves plane, upper ones filiform, with innate vesicles. Fr. tubercles in common cellular receptacles.—P. 72.
- 109. **FUCUS.** Fruc. perforated, tubercles inclosing clustered capsules and jointed fibres.—P. 73.
- 110. **LAMINARIA.** Frond cartilaginous, tough, expanded on a distinct stipes. Seeds oblong, immersed in portions of the proper frond, or in appendages attached to the stipes.—P. 75.

## VIII. CHARACEÆ.

Fruc. of 2 kinds:—1. Nucules 4, bracteated, solitary, sessile, oval, spirally striated, surrounded by a diaphanous involucre, 1-celled, many-seeded, indehiscent; seeds very minute, spherical. 2. Globules of a reddish or orange-colour, accompanying the nucules, surrounded by a pellucid covering, opening into 3-4 valves, and containing a mass of minute, spiral filaments. Plant aquatic, submersed, verticillate, fistulous, smooth or covered with a calcareous crust, very brittle, when dry.

111. CHARA. (The only genus of this order.)—P. 76.

## IX. HEPATICÆ.

Fruc. generally of 2 kinds:—1. Capsules, in an early stage covered with a calyptra, or veil, tipped with a style, mostly surrounded by a perianth, at length bursting the calyptra irregularly, and rising on a peduncle, opening at the extremity into 2 or 4 equal valves, destitute of operculum, bearing within numerous sporules mixed with spiral filaments. 2. Oblong reticulated bodies containing a minutely granulated substance, which escapes by an aperture at the extremity.

Plants small, frondose or leafy; substance loosely cellular, easily reviving by moisture after being dried.

112. ANTHOCEROS. Perianth tubular. Caps. pedunculated, linear, 2-valved, with a central columella, to which the seeds are attached.—P. 77.
113. JUNGERMANNIA. Common recept. 0. Perianth monophyllous, tubular, (rarely wanting.) Caps. 4-valved, terminating a peduncle, which is longer than the perianth.—P. 77.
114. TARGIONIA. Common recept. 0. Perianth globose, arising from the under side of the end of the frond; at length opening vertically into two valves. Caps. globose, nearly sessile, included in the cal. opening irregularly at the end.—P. 80.
115. MARCHANTIA. Common recept. pedunculated, peltate, bearing beneath short, pedunculated, pendent capsules, opening at the end with about 8 teeth, and above, oblong, sessile bodies (Anthers?) imbedded in a flat, car-



nose, papillary disk. (Gemmæ are also abundant in this genus on the frond, lenticular, contained in variously striated receptacles, and germinating often before separating from the frond.)—P. 80.

## X. MUSCI.

Fruc. of 2 kinds:—1. Capsules, (thecæ,) covered with a veil, (calyptra,) tipped with a style, which bursts transversely and regularly, and rises with the, mostly pedunculated and operculated, capsule; operculum, or lid, mostly deciduous; mouth of the capsule furnished with a fringe (peristome); containing sporules surrounding a columella\* destitute of spiral filaments. 2. Spherical, pedicellate, reticulate bodies, concealed for the most part in peculiarly shaped leaves.†

Plants of small size, and compactly cellular texture; readily reviving by application of moisture, when dried; leaves mostly undivided.

### 1. *Peristome 0.*

116. ANDRÆA. Caps. 4-valved. Valves cohering at the extremity by means of the persistent lid. Calyptra irregularly torn.—P. 81.
117. SPHAGNUM. Recept. pedunculated, its peduncle resembling a foot-stalk. Caps. sessile, its lid deciduous. Calyptra irregularly torn.—P. 81.
118. PHASCUM. Fr. stalk terminal. Lid persistent. Calyptra dimidiate.—P. 81.
119. GYMNSTOMUM. Fr. stalk terminal. Calyptra dimidiate.—P. 83.
120. ANICTANGIUM. Fr. stalk terminal. Calyptra mitri-form.—P. 84.
121. SCHISTOSTEGA. Fr. stalk terminal. Lid laciniated. Laciniae deciduous. Calyptra campanulate, entire at the base.—P. 84.

### 2. *Peristome single.*

122. TETRAPHIS. Fr. stalk terminal. Peristome consisting

\* *Columella*, a little pillar passing up the centre of the capsule.

† The leaves of mosses are of 2 kinds; those of the stem, which are termed *cauline*, and those immediately surrounding the fructification, which are usually of a different form, and termed *perichætal* leaves.

- of 4 equidistant, upright teeth. Calyptra mitriform. P. 84.
123. *SPLACHNUM*. Fr. stalk terminal. Caps. with an evident apophysis. Peristome of 8 double teeth. Calyptra mitriform, unfurrowed.—P. 84.
124. *POLYTRICHUM*. Fr. stalk terminal. Peristome of 32 or 64 equidistant incurved teeth, their summits united by a horizontal membrane. Calyptra dimidiate, small.—P. 84.
125. *CINCLIDOTUS*. Fr. stalks terminal. Peristome of 32 filiform, twisted teeth, anastomosing at their base. Calyptra mitriform.—P. 86.
126. *TORTULA*. Fr. stalks terminal. Peristome of 32 filiform, twisted teeth, more or less united at their base by a tubiform membrane. Calyptra dimidiate.—P. 86.
127. *ENCALYPTA*. Fr. stalk terminal. Peristome of 16 teeth. Calyptra campanulate, smooth, entirely inclosing the mature capsule.—P. 87.
128. *GRIMMIA*. Fr. stalk terminal. Peristome of 16 entire or perforated, rarely cleft, equidistant teeth. Calyptra mitriform.—P. 87.
129. *PTEROGONIUM*. Fr. stalk lateral. Peristome of 16 entire, equidistant teeth. Calyptra dimidiate.—P. 88.
130. *WEISSIA*. Fr. stalk terminal. Peristome of 16 entire equidistant teeth. Calyptra dimidiate.—P. 88.
131. *DICRANUM*. Fr. stalk terminal, (except *D. adiantoides* and *D. taxifolium*.) Peristome of 16 bifid, equidistant teeth. Calyptra dimidiate.—P. 89.
132. *TRICHOSTOMUM*. Fr. stalk terminal. Peristome of 16 equal teeth, divided to the base, or 32 placed together in pairs. Calyptra mitriform.—P. 92.
133. *LEUCODON*. Fr. stalk lateral. Peristome of 32 teeth, closely united in pairs. Calyptra dimidiate.—P. 93.
134. *DIDYMODON*. Fr. stalk terminal. Peristome of 16 or 32 teeth, approaching in pairs, or united at the base. Calyptra dimidiate.—P. 93.

### 3. *Peristome double.*

135. *FUNARIA*. Fr. stalk terminal. Peristome oblique, the outer of 16 teeth, the inner of 16, opposite those of the outer.—P. 94.



136. **ORTHOTRICHUM.** Fr. stalk terminal. Peristome, the exterior of 16 teeth approaching in pairs; the inner (usually) of as many ciliary processes, lying horizontally. Calyptra mitriform, sulcate, more or less hairy.—P. 94.
137. **NECKERA.** Fr. stalk lateral. Peristome, the outer of 16 teeth, the inner of 16 ciliae, connected only at the very base by a short membrane. Calyptra dimidiate.—P. 95.
138. **ANOMODON.** Fr. stalk lateral. Peristome consisting of 16 teeth, and a ciliary process arising from each tooth. Calyptra dimidiate.—P. 95.
139. **DALTONIA.** Fr. stalk lateral. Peristome of 16 teeth, with a ciliary process arising from the side of each. Calyptra mitriform.—P. 96.
140. **FONTINALIS.** Fr. stalk lateral. Peristome, the outer of 16 teeth; the inner of 16 ciliae, connected by transverse bars, and forming a reticulated cone. Calyptra mitriform.—P. 96.
141. **BARTRAMIA.** Fr. stalk terminal. Caps. subglobose. Peristome, the outer of 16 teeth; the inner of a membrane divided into 16 bifid segments. Calyptra dimidiate.—P. 96.
142. **HOOKERIA.** Fr. stalk lateral. Peristome, the outer of 16 teeth; the inner of a membrane, divided into 16 entire segments. Calyptra mitriform.—P. 97.
143. **HYPNUM.** Fr. stalk lateral. Peristome, the outer of 16 teeth; the inner of a membrane cut into 16 equal segments, with filiform processes frequently placed between them. Calyptra dimidiate.—P. 97.
144. **BRYUM.** Fr. stalk terminal. Peristome, the outer of 16 teeth; the inner of a membrane cut into 16 equal segments, with filiform processes frequently placed between them. Calyptra dimidiate.—P. 104.

b. *With a vascular structure.*

## XI. FILICES.

Fruc. spiked, or racemed, or (more generally) in variously shaped clusters (sori) on the back of the frond. Seeds? (or sporules) minute. Plant usually with a subterraneous, horizontal stem, (rachis.) Fronds before ex-

pansion circinate. Substance varying from membranaceous to coriaceous.

#### DIV. 1. ANNULATÆ.

*Capsules with an elastic ring, striated, produced on the back of the frond.*

145. GRAMMITIS. Involucre\* 0. Sori sub-linear, straight, scattered.—P. 107.
146. POLYPODIUM. Invol. 0. Sori roundish.—P. 107.
147. ASPIDIUM. Invol. umbilicate, or opening on one side. Sori roundish, scattered.—P. 107.
148. ASPLENIUM. Invol. arising from the lateral veins, and opening towards the mid-rib. Sori linear, transverse, scattered.—P. 109.
149. SCOLOPENDRIUM. Invol. double, opening by a longitudinal suture. Sori linear, transverse, scattered.—P. 109.
150. PTERIS. Invol. formed of the inflexed margin of the frond, opening interiorly. Sori continuous, linear, marginal.—P. 110.
151. BLECHNUM. Invol. superficial, continuous, opening interiorly. Sori linear, continuous, longitudinal, parallel on each side the rib of the frond.—P. 110.
152. HYMENOPHYLLUM. Invol. 2-valved, of the same texture as the frond. Valves plane, the exterior one free. Sori marginal. Caps. sessile, inserted on a common cylindrical receptacle.—P. 110.

#### DIV. 2. EXANNULATÆ.

*Capsules without an elastic ring, spiked, or terminal.*

153. OSMUNDA. Invol. 0. Caps. subglobose, half bi-valved, paniculated.—P. 110.
154. OPHIOGLOSSUM. Sori in an articulated distichous spike. Caps. 1-celled, 2-valved, opening transversely.—P. 110.

#### XII. LYCOPODINEÆ.

Fruc. crustaceous, axillary, sessile at the base of the leaves, or of the bracteæ. Caps. of 2 kinds; 1-3-celled, 2-3-valved, containing many minute granules, or a few larger corpuscles.

\* *Involucre*, a membrane covering the sori when young.

Root fibrous. Stem herbaceous, or woody, simple or branched, often creeping. Leaves small, undivided, numerous, frequently stipuled.

155. *LYCOPODIUM*. Caps. 1-celled; some 2-valved, filled with a powdery substance; others 3-valved, containing from 1-6 globose corpuscles.—P. 111.

### XIII. MARSILEACEÆ.

Plants aquatic. Leaves revolute. Fruc. radical, spherical, coriaceous, 1 or many-celled.

156. *PILULARIA*. Involucre imbricate, solitary, sub-sessile, globose, 4-celled.—P. 111.

### XIV. EQUISETACEÆ.

Fruc. terminal, amentaceous. Stem leafless. Branches whorled, jointed; the joints sheathed at the base.

157. *EQUISETUM*. (The only genus of this order, consequently char. same as that of the order. The fruc. consists of peltate scales. The sporules? numerous, naked, with 4 very hygrometrical threads twisting and untwisting round them.)—P. 111.

## II. MONOCOTYLEDONS.

The structure vascular; the stem cylindrical, its central part youngest, its structure homogeneous, the embryo undivided; the plumule extra-axile.

τ. *Stamens hypogynous.*

### I. FLUVIALES.

The seed solitary, pendulous or suspended. Embryo without albumen, having a contrary direction to the seeds.

Floating herbs, with inconspicuous flowers.

158. *RUPPIA*. Fl. 2, perfect, on a spadix. Per. 0. Stam. 4, sessile. Nuts 4, pedicellate.—P. 113

159. *ZOSTERA*. Spatha foliaceous. Fl. on a spadix. Per. 0. Barren fl. Anthers ovate, sessile, alternating with the



germens on the same spadix. *Fertile fl.* Style bifid. *Fr.* a 1-seeded drupe.—P. 113.

160. ZANNICHELLIA. Monœcious. *Barren fl.* Per. 0. Stam. 1. *Fertile fl.* Per. of 1 leaf. Style 1. Stigma peltate. Caps. sessile.—P. 113.
161. POTAMOGETON. Fl. perfect, on a spadix, springing from a spatha. Per. 4-leaved. Anthers 4, sessile, alternating with the divisions of the perianth. Nuts 4, sessile, 1-seeded.—P. 113.

## II. AROIDEÆ.

Flowers spathaceous, on a spadix, perfect or monœcious. Style 0. Stigma single. *Fr.* an indehiscent berry or capsule, 1-3 celled, 1-many-seeded. Embryo in the axis of a fleshy albumen, with the same direction as the seed.

τ. AROIDEÆ. *Per.* 0. *Anthers and pistils separated.*  
*Fr.* a berry.

162. ARUM. Spatha monophyllous, convolute at the base. Spadix naked at the end, staminiferous in the middle, pistilliferous at the base. Berry 1-seeded.—P. 114.

ττ. PISTIACEÆ. *Spadix 2-flowered, on a cucullate spatha.*  
*Fr.* a capsule or utricle. *Floating plants.*

163. LEMNA. Sterile and fertile fl. collateral. Stam. 2. Utricle 1-5-seeded.—P. 114.

τττ. TYPHINÆ. *Fl. monœcious. Stam. 3. Fr. an achenium.*

164. SPARGANIUM. Fl. in spherical dense heads. *Barren fl.* Per. single, of 3 leaves. *Fertile fl.* Per. of 3 leaves.—P. 114.
165. TYPHA. Fl. in cylindrical dense spikes. *Barren fl.* Per. 0. Stam. 3 together, on a common filament. *Fertile fl.* Per. 0. Achenium pedicellate, surrounded with hairs at the base.—P. 114.

## III. CYPERACEÆ.

Glumaceous. Perianth 0, or composed of bristles, (rarely a 1-3 leaved membrane.) Stam. (mostly) 3. Anthers inserted by their base. Style (mostly) trifid. Stigmas entire. *Fr.* a crustaceous achenium, embryo lenticular, inclosed in the base of an indurated albumen. (The stems are for the most part unjointed; the leaves have

- an entire sheath; the flowers are supported by chaffy scales, disposed in spikes.)
166. *ERIOPHORUM*. Scales imbricating the spike all round. Achenium with long silky hairs springing from the base.—P. 114.
167. *SCHÆNUS*. Scales imbricating the spike on all sides, the exterior ones smaller, and without flowers. Achenium naked, or with a few bristles at the base.—P. 115.
168. *SCIRPUS*. Scales imbricating the spike on all sides, all fertile, (1 or 2 of the outer ones occasionally sterile,) achenium with bristles at the base.—P. 115.
169. *CAREX*, (generally monœcious). Scales imbricating the spike on all sides. *Barren* fl. Per. 0. Stam. 3. *Fertile* fl. (on the same, or on a distinct spike). Per. monophyllous, urceolate. Stigmas 2-3. Achenium included in the enlarged perianth.—P. 116.
170. *KOBRESIA*. Monœcious. Scales imbricating. *Barren* fl. interior. Per. 0. *Fertile* fl. exterior. Per. 0. Stigmas 3. Achenium naked.—P. 119.

## IV. GRAMINEÆ.

Glumaceous. Perianth (mostly) 2-valved. Anthers versatile. Styles (mostly) 2. Stigmas plumose. Fr. a caryopsis. Embryo scutelliform, placed outside the base of a farinaceous albumen. The stems are fistulose; the leaves 1 to each joint, with a sheath, slit longitudinally; the flowers in spikes or panicles.

## DIV. 1. PANICEÆ.

*Glume with 2-3 flowers, of which the lowest is imperfect.*

171. *ANTHOXANTHUM*. Glume 2-valved, 3-flowered. Inferior florets imperfect, 1-valved, awned. Superior one perfect, 2-valved, awnless, valves minute, stam. 2. Fr. free.—P. 119.

## DIV. 2. POACEÆ.

*Glume with 1-2 or many flowers, either all perfect, or the upper flower abortive.*

a. *Glume 1-flowered.*

172. *NARDUS*. Glume 0. Perianth 2-valved. Style 1.—P. 120.



173. *ALOPECURUS*. Glume of 2 acute valves, united at the base. Per. of 1 valve, awned at the base.—P. 120.
174. *PHALARIS*. Glume of 2 carinate valves. Perianth double. Caryopsis invested by the inner hardened perianth.—P. 120.
175. *PHLEUM*. Glume of 2 mucronate valves. Per. single, awnless, included. Caryopsis free.—P. 120.
176. *MILIUM*. Glume of 2 ventricose valves. Caryopsis invested by the single permanent hardened perianth.—P. 120.
177. *AGROSTIS*. Glume of 2 acute, compressed, awnless valves. Perianth shorter than the glume, hairy at the base. Caryopsis free.—P. 121.
178. *ARUNDO*. Glume 2-valved, (in *A. phragmites* only, many-flowered). Perianth surrounded with long hairs. Caryopsis free, but included.—P. 121.
179. *ROTBOLLIA*. Glume of 2 lateral valves. Fl. alternate, on a jointed rachis.—P. 121.
180. *HORDEUM*. Glumes placed 3 together, 2-valved, valves lateral, the intermediate glumes perfect, the lateral ones imperfect. Per. 2-valved, awned.—P. 121.

b. *Glume 2, or (rarely) 3-flowered.*

181. *HOLCUS*. Glume of 2 sub-equal valves, 2-flowered. Per. 2-valved. Fl. polygamous, dissimilar, one awned, the other awnless. Caryopsis free, or enveloped in the membranaceous perianth.—P. 122.
182. *AIRA*. Glume of 2 unequal valves, 2-flowered. Per. 2-valved, the outer valve (mostly) awned above the base. Caryopsis free, but included.—P. 122.
183. *MELICA*. Glume 2-valved, 2-flowered, with the rudiments of a third intermediate one. Per. 2-valved, awnless. Caryopsis free, but included.—P. 122.

c. *Glume many-flowered.*

τ. *Glume 1-valved.*

184. *LOLIUM*. Glume lateral, fixed. Per. with 2 lanceolate valves, the exterior one with, or without an awn inserted below the end. Caryopsis firmly enveloped by the perianth.—P. 123.

ττ. *Glume 2-valved.*

185. *POA*. Per. with ovate, sub-acute, awnless valves. Caryopsis free, covered by the perianth.—P. 123.
186. *TRIODIA*. Glume with lanceolate acute valves. Per. ext. valve 3-toothed, int. one obtuse, entire.—P. 124.
187. *BRIZA*. Per. ventricose, with 2 cordate, obtuse, awnless valves. Caryopsis adnate with the perianth.—P. 124.
188. *DACTYLIS*. Glume with 2 unequal valves, the larger one keeled. Per. valves lanceolate, awnless. Caryopsis adnate with the hardened perianth.—P. 124.
189. *ELYMUS*. Glumes in pairs or ternate, valves sub-equal. Per. valves lanceolate, ext. one acuminate or awned. Caryopsis firmly invested by the perianth, (fl. spiked.)—P. 124.
190. *FESTUCA*. Glume with 2 unequal valves. Per. of 2 lanceolate valves, the ext. one acuminate or awned.—P. 124.
191. *TRITICUM*. Rachis flexuose, toothed. Glumes with opposite, sub-equal valves. Per. valves lanceolate, the ext. one acuminate or awned.—P. 125.
192. *BROMUS*. Per. with 2 lanceolate valves, the ext. one awned below the point, the int. one fringed. Caryopsis adnate with the perianth.—P. 125.
193. *AVENA*. Per. of 2 lanceolate valves, the ext. one with a twisted awn on the back. Caryopsis firmly invested by the perianth.—P. 126.
194. *CYNOSURUS*. Glume with a pectinate involucre. Per. with linear-lanceolate valves. Caryopsis united with the perianth.—P. 127.

V. *JUNCAGINEÆ.*

Perianth uniform, (rarely 0,) not petaloid. Pericarps superior, indehiscent. Embryo without albumen, and having the same direction as the seed.

Rigid herbs, with narrow radical leaves, and spiked flowers, which are not coloured.

195. *TRIGLOCHIN*. Per. of 6 concave, deciduous leaves, 3 of which are inserted above the rest. Stam. 6, very short. Styles short, stigmas adnate. Caps. 3-6, valveless. Seeds erect.—P. 127.



## VI. ALISMACEÆ.

Perianth with the 3 inner segments petaloid. Pericarp superior, indehiscent, monospermous. Embryo without albumen, curved, having the same direction as the seed.

Aquatic plants, with fleshy, long-stalked, radical, indistinctly nerved leaves, and paniced white flowers.

196. *ALISMA*. Per. 6-leaved. Stam. 6. Styles numerous, pericarps numerous, aggregated.—P. 127.

## VII. BUTOMEÆ.

Perianth with the 3 inner segments petaloid. Follicles superior, polyspermous, the seeds ascending, attached to veins running like net-work over the interior of the capsule. Embryo without albumen, and having the same direction as the seed.

197. *BUTOMUS*. Perianth 6-parted. Stam. 9. Styles 6. Caps. 6.—P. 127.

## VIII. JUNCÆ.

Perianth 6-partite, sub-glumaceous. Stamens 6. Style 1, Stigmas 1 or (more usually) 3. Capsules superior, with central dissepiments, 1-3 celled, 1, 3, or many seeded. Embryo, cylindrical at the base of the albumen, which is hard, fleshy, or cartilaginous.

Herbs with grassy leaves, and small, inconspicuous (rarely petaloid) flowers.

198. *JUNCUS*. Per. 6-leaved, glumaceous. Stam. 6. Caps. 3-celled, 3-valved. Seeds numerous, fixed to the valvular dissepiments. (Leaves mostly rounded and glabrous.)—P. 127.
199. *LUZULA*. Per. 6-leaved, glumaceous. Stam. 6. Caps. 3-celled, 3-valved, valves without dissepiments. Seeds 1 in each cell, fixed to the bottom, (leaves plane, and mostly pilose.)—P. 128.
200. *NARTHECIUM*. Per. 6-leaved, coloured. Stam. 6. Filam. hairy. Caps. 3-celled, 3-valved. Seeds numerous, ovate-oblong, appendiculate at each end.—P. 129.
201. *ACORUS*. Spadix many-flowered. Per. 6-leaved. Style 0. Seeds roundish.—Part I, p. 59.



τ.τ. *Stamens perigynous.*

### IX. ASPARAGEÆ.

Perianth regular, petaloid, 6-8 partite. Stam. 3, 6, or 8, (hypogynous or perigynous.) Style single. Stigma tripartite. Fr. baccate, superior, 3-4 celled, cells 1, 2, or many-seeded. Albumen corneous.

202. ASPARAGUS. Per. 6-partite. Stam. 6. Berry 3-celled, cells 2-seeded. Fl. diœcious.—P. 129.

203. RUSCUS. Fl. diœcious. *Barren fl.* Per. 6-partite. Filam. united in a tube. Anth. 3-6. *Fertile fl.* Per. 6-partite. Nectary tubular. Style 1. Stigma 1. Berry 3-celled; cells 2-seeded.—P. 129.

### X. TAMACEÆ.

Diœcious. Per. regular, 6-parted. Berry inferior, 3-celled; cells 2-seeded.

204. TAMUS. *Barren fl.* Per. 6-partite. Stam. 6. *Fertile fl.* Per. 6-partite. Style 3-cleft.—P. 129.

### XI. ASPHODELIÆ.

Perianth 6-partite, petaloid, regular. Stam. 6, the 3 opposite the outer segments of the perianth, of a different form, or wanting. Caps. superior, 3-celled, 3-valved, the septa central; seeds with a black, crustaceous, brittle integument; albumen fleshy, or cartilaginous.

205. ORNITHOGALUM. Perianth 6-leaved. Stam. dilated at the base, hypogynous.—P. 129.

206. SCILLA. Per. of 6 spreading, deciduous leaves. Stam. filiform, glabrous, perigynous. Seeds spherical.—P. 129.

207. HYACINTHUS. Per. tubular, persistent, 6-parted, the ends only spreading. Stam. filiform. Caps. obtusely triangular.—P. 130.

208. ALLIUM. Fl. umbellate, terminal, springing from a 2-leaved spatha. Per. 6-partite, (mostly) patent.—P. 130.

## XII. AMARYLLIDÆ.

Perianth coloured, 6-parted. Stam. 6, anthers turned inward. Style 1. Stigma 3-lobed. Caps. inferior, either dry, with 3 valves and 3 cells, with septa centrally attached and many seeds, or fleshy, with 1-3 seeds. Seeds not crustaceous. Embryo straight in the axis of a fleshy albumen.

Plants, with bulbous roots, fleshy, radical leaves, and large and mostly bright-coloured flowers.

209. *NARCISSUS*. Fl. spathaceous. Per. infundibuliform, 6-partite, crown (nectary of *Linn.*) petaloid, cylindrical or campanulate, entire or divided. Stam. included.—P. 130.

210. *GALANTHUS*. Fl. spathaceous. Per. 6-partite, the 3 inner segments shorter and emarginate.—P. 130.

## XIII. IRIDÆ.

Perianth coloured, 6-parted, (often irregular.) Stam. 3. Caps. inferior, 3-celled, 3-valved, many-seeded, valves with central septa. Seeds round, hard. Albumen horny, or fleshy embryo, with the same direction as the seed. Flowers spathaceous and terminal; leaves for the most part equitant.

211. *IRIS*. Perianth 6-cleft, petaloid; the alternate segments reflexed. Stigmas petaliform.—P. 130.

†††. *Stamens epigynous.*

## XIV. HYDROCHARIDÆ.

Perianth 3-6 parted, 3 inner segments petaloid. Fr. a berry, inferior, with 1 or more cells. Embryo straight, having a contrary direction to the seed.

Plants, with radical, often floating leaves, and white flowers.

212. *HYDROCHARIS*. Fl. diœcious. Per. 3 inner petaliform segments largest. *Barren fl.* Stam. 2. *Fertile fl.* Styles 6, each with 2 stigmas. Berry roundish, 6-celled, many-seeded.—P. 130.

## XV. ORCHIDEÆ.

Perianth 6-partite, having 1 segment (lip) of a different form from the others. Organs of fructification united in a column. Anthers 1 or (rarely) 2; pollen cohering in masses of a determinate figure. Capsule 3 or 6 valved; seeds minute, numerous, adhering to 3 parietal receptacles.

213. ORCHIS. Per. ringent, lip spurred on the under side at the base. Glands of the stalks of the pollen mass (1-2) contained in one common little pouch.—P. 131.
214. HABENARIA. Per. ringent, lip spurred on the upper side at the base beneath. Glands of the stalk of the pollen-mass naked, distinct, with the cells of the foot-stalks adnate or separated.—P. 131.
215. OPHRYS.—Per. sub-patent, lip spurless. Glands of the pollen-mass contained in distinct little pouches.—P. 131.
216. NEOTTIA. Per. ringent, ext. segments opening forward, and placed beneath the smooth lip; int. ones connivent.—P. 132.
217. LISTERA. Per. irregular. Lip 2-lobed. Column wingless. Anther fixed by its base. Pollen farinaceous.—P. 132.
218. EPIPACTIS. Lip ventricose below, either undivided or 3-lobed at the end; middle lobe largest, connected, as it were, by a joint. Pollen farinaceous.—P. 132.

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### III. DICOTYLEDONS.

The structure vascular; the stem increasing externally, and with a distinct covering or bark; the embryo divided; the cotyledons 2 or more; the plumule axile.

a. *Perianth single, or none.*

#### I. CORYLACEÆ.

Fl. amentaceous, monœcious. *Barren fl.* Per. occasionally wanting. Stam. 5-20 on each scale. *Fertile fl.* Cupule



1 or many-flowered. Per. adherent, many-toothed. Fr. a nut. Seed pendulous, radicle superior; albumen 0. Shrubs or trees, with simple, alternate leaves and stipules.

219. *CORYLUS*. *Barren fl.* Catkin cylindrical, its scales 3-cleft. Per. 0. Stam. 8. Anthers 1-celled. *Fertile fl.* Per. obsolete. Stigmas 2. Ovaries several, surrounded by a scaly involucre. Nut 1-seeded, surrounded at the base by the enlarged, united, coriaceous scales of the involucre.—P. 133.
220. *QUERCUS*. *Barren fl.* in a lax catkin. Per. single, 5-cleft. Stam. 5-10. *Fertile fl.* Cupule cup-shaped, scaly. Per. 6-lobed. Ovary, with 3 cells, 2 abortive. Style 1. Stigmas 8. Nut (acorn) 1-celled, 1-seeded, surrounded at the base by the scaly cupule.—P. 133.
221. *CASTANEA*. *Barren fl.* in a long, cylindrical catkin. Per. 6-parted. Stam. 5-20. *Fertile fl.* 3 in a 5-lobed, muricated involucre or cupule. Per. 5-6 lobed, with the rudiments of 12 stamens. Ovaries 6-celled. Cells 2-seeded, 5 of them (mostly) abortive. Styles 6. Nut 1-2 seeded, invested by the enlarged cupule.—P. 133.
222. *FAGUS*. *Barren fl.* in a globose catkin. Per. campanulate, 6-cleft. Stam. 5-12. *Fertile fl.* in a 4-lobed, prickly cupule. Per. with 4-5 minute lobes. Ovaries with 3 cells, 2 of which abortive. Styles 3. Nuts 1-seeded, invested with the enlarged cupule.—P. 133.
223. *CARPINUS*. *Barren fl.* in a cylindrical catkin, its scales roundish, ciliate at the base. Stam. 8-20. *Fertile fl.* in a lax catkin, its scales large, foliaceous, 3-lobed, 1-flowered. Per. urceolate, adherent with the 2-celled ovary. Styles 2. Nut ovate, striate, 1-seeded.—P. 133.

## II. SALICINÆ.

Flowers amentaceous, (mostly) diœcious. *Barren fl.* Stam. 1-8. *Fertile fl.* Per. free and persistent, or none. Style simple. Stigmas 2-4. Fr. a capsule or achenium, 1-2 celled, 1-many-seeded; seeds pendulous; albumen 0, radicle superior.

Shrubs or trees, with simple, alternate leaves and stipules.

224. *SALIX*. *Barren fl.* Catkin scales 1-flowered, imbricated with a gland at the base. Per. 0. Stam. 1-5. *Fertile*

- fl. Catkin scales 1-flowered. Per. 0. Stigmas 2. Caps. 1-celled, 2-valved, many-seeded. Seeds comose.—P. 133.
225. *POPULUS*. Catkins cylindrical, scales lacerated. *Barren* fl. Per. entire, oblique, turbinate. Anthers 8-30. *Fertile* fl. Per. turbinate. Stigmas 4. Caps. superior, 2-celled, 2-valved, many-seeded. Seeds comose.—P. 135.
226. *ALNUS*. Monœcious. *Barren* fl. with long cylindrical catkins, their scales 3-lobed and 3-flowered. Per. single, 4-partite. Stam. 4. *Fertile* fl. with ovate catkins, their scales subtrifid, and 2-flowered. Per. 0. Styles 2. Fr. compressed.—P. 135.
227. *BETULA*. Monœcious. Catkins cylindrical. *Barren* fl. Scales 3-flowered. Per. 0. Stam. 8-12. *Fertile* fl. Scales obscurely 3-lobed, 3-flowered. Per. 0. Styles 2. Ovaries 2-celled, 1 abortive. Nut compressed, with a membranous border.—P. 135.
228. *MYRICA*. Dioecious. Catkins ovate, their scales lunulate. *Barren* fl. Per. 0. Stam. 4-6. Anthers 4-valved. *Fertile* fl. Per. 0. Stigmas 2. Drupe 1-celled, 1-seeded.—P. 135.

### III. ULMACEÆ.

Flowers perfect. Perianth free, 4-6 toothed. Stamens 4-6, perigynous. Styles 2, stigmas double, ovary 1. Fr. an achenium, or 1-seeded drupe; seed pendulous, radicle superior.

Shrubs or trees, with simple, rough, alternate, stipuled leaves, and axillary flowers.

229. *ULMUS*. Per. persistent. Fr. membranaceous, compressed, 1-seeded.—P. 135.

### IV. URTICEÆ.

Perianth free, 3-5 cleft, persistent. Stam. 3-5, hypogynous, and usually with an elastic filament. Style simple, double, or 0. Achenia covered by the perianth, solitary, or united on a dilated, fleshy receptacle. Seeds pendulous, radicle superior.

Herbs or under-shrubs, leaves generally stipuled. Flowers either in heads or racemes.



230. *URTICA*. Monœcious, or diœcious. *Barren fl.* Per. of 4 leaves, containing rudiments of an ovary. *Fertile fl.* Per. of 2 leaves. Achenium shining.—P. 136.
231. *PARIETARIA*. Fl. occasionally imperfect, surrounded by a many-cleft involucre. Per. 4-cleft. Stam. 4. Filaments at first incurved, expanding elastically. Style 1. Achenium inclosed in the enlarged perianth.—P. 136.
232. *HUMULUS*. Diœcious. *Barren fl.* Per. single, 5-parted. Stam. 5. Anthers with 2 pores at the end. *Fertile fl.* amentaceous. Catkin scales large, persistent, concave, entire, 1-flowered. Per. 0. Styles 2. Seed 1.—P. 136.

## V. EUPHORBIACEÆ.

Anthers and pistils in distinct flowers, naked, or with a free, divided perianth. *Barren fl.* Stamens 1-12. Anthers didymous. *Fertile fl.* Styles 2-3. Stigmas 2-3, 2-lobed. Ovary 1. Capsule elastically splitting into 2 or 3 one or two-seeded cocci. Seeds suspended. Embryo in the axis of a fleshy albumen. Radicle superior. Cotyledons flat.

233. *MERCURIALIS*. Diœcious. Per. tripartite. *Barren fl.* Stam. 9-12. *Fertile fl.* Styles 2.—P. 136.
234. *EUPHORBIA*. Monœcious. Involucre monophyllous, calyciform, inclosing many pedicelled flowers, of which, 1 is pistilliferous, and the rest consisting each of a single stamen.—P. 136.

## VI. RESEDACEÆ.

Flowers in sterile and perfect heads. Perianth scutelliform, oblique. Stamens definite, perigynous. Anthers oblong, innate. Stigmas 3. Capsule 1-celled, many-seeded, open at the summit. Seeds reniform, suspended, on 3 parietal receptacles. Embryo without albumen, curved. Radicle superior.

Plants, with herbaceous stems, rough with minute, transparent papillæ. Alternate, mostly compound leaves, and flowers with an involucre.

235. *RESEDA*. Fl. capitate, outer florets sterile; central ones perfect.—P. 137.

## VII. THYMELEÆ.

Perianth tubular, persistent, free, (often coloured). Stamens 8, in 2 rows, included in the per.; 4 opposite the segments, and 4 alternating with them. Style and stigma simple; the former inserted below the apex of the ovary. Fr. a 1-seeded drupe or achenium. Seed pendulous. Radicle superior. Cotyledons fleshy.

Shrubs, with simple, entire, alternate leaves.

236. *DAPHNE*. Per. 4-lobed. Style short. Drupe 1-celled, 1-seeded.—P. 137.

## VIII. POLYGONEÆ.

Perianth free, persistent, 4-6 cleft, (frequently coloured.) Stamens definite, hypogynous. Style 2-4 partite, stigma simple. Fr. an achenium or nut, with 1 erect, farinaceous seed. Radicle superior.

Herbs, (rarely shrubs,) with alternate leaves, sheathing at the base, and when young, rolled outwards; and spiked or paniced flowers.

237. *POLYGONUM*. Per. coloured. Stam. 5-9, (mostly 8.) Styles 2-3. Fr. an achenium.—P. 137.  
 238. *CORRIGIOLA*. Per. 5-parted. Stam. 5. Styles 3. Fr. 3-sided.—P. 138.  
 239. *RUMEX*. Per. 6-leaved. Stam. 6. Styles 3. Fr. 3-sided, covered by the 3 inner valvular leaves of the perianth.—P. 138.

## IX. CHENOPODEÆ.

Perianth free, persistent, with deep divisions and imbricated æstivation. Stamens definite, opposite the segments, perigynous. Style 2-4 cleft, or 0. Stigma simple. Fr. an achenium or utricle, inclosed in the perianth. Seeds erect, farinaceous. Radicle inferior.

Herbs or shrubs, with simple, alternate leaves, without stipules.

240. *CHENOPODIUM*. Fl. perfect. Per. 5-cleft, partially covering the fruit. Stam. 5. Styles 2.—P. 139.

241. *ATRIPLEX*. Fl. polygamous. *Perfect fl.* Per. 5-parted. Stam. 5. Style 2-parted. Fr. depressed, covered by the perianth. *Female fl.* Per. 2-parted. Stam. 0.—P. 140.
242. *BETA*. Fl. perfect. Per. half-adherent, 5-cleft. Stam. 5. Styles 2. Achenium reniform, imbedded in the enlarged fleshy base of the perianth.—P. 140.
243. *SALSOLA*. Fl. perfect. Per. 5-cleft, enveloping the fruit with its base, and crowning it with its enlarged scarious limb.—P. 140.
244. *SALICORNIA*. Fl. perfect. Per. turbinate, fleshy, closed. Stam. 1-2. Style bi-trifid. Fr. included in the enlarged perianth.—P. 140.

## X. HALORAGEÆ.

Perianth superior or none, stamens definite, inserted in the perianth. Ovary 1, or few-celled. Pericarp indehiscent. Seed solitary, either pendulous or peltate. Embryo in the axis of a fleshy albumen. Radicle superior.

Inconspicuous herbs, with opposite, and for the most part whorled leaves, and axillary flowers.

245. *MYRIOPHYLLUM*. Monœcious. *Barren fl.* Per. 4-partite. Stam. 8. *Fertile fl.* Stigmas 4, sessile. Pericarp 4-celled.—P. 140.
246. *CALLITRICHE*. Monœcious. Fl. naked. Stam. 1. Styles 2. Pericarp 4-celled. Cells 1-seeded.—P. 141.

b. *Perianth double. Corolla monopetalous.*

1. *Cor. hypogynous.*

## XI. PLANTAGINEÆ.

Flowers perfect, (rarely monœcious.) Calyx 4-parted, (3-parted in *Littorella*.) persistent. Corolla tubular, scarious, persistent, 4-cleft. Stam. 4, alternating with the segments. Filam. flaccid. Anthers versatile. Style simple. Stigma simple or bifid. Fr. a membranous pyxis, 2-4 celled; seeds attached by their middle; em-



bryo transverse, in the axis of a cartilaginous albumen. Radicle inferior.

Herbs, with, for the most part, radical, tufted, many-nerved leaves.

247. *PLANTAGO*. Fl. perfect. Pyxis 2-4 celled, 2-many-seeded.—P. 141.

248. *LITTORELLA*. Monœcious. *Barren* fl. Cal. 4-parted. Cor. 4-cleft. *Fertile* fl. Cal. or bractæ? 3. Cor. urceolate, mouth subtridentate. Caps. 1-seeded.—P. 141.

## XII. PLUMBAGINEÆ.

Calyx tubular, plaited, persistent. Cor. monopetalous, equal, (rarely pentapetalous.) Stamens definite, hypogynous in the Monopetalous genera; epipetalous in the Pentapetalous ones. Styles 5. Stigmas 5. Fr. a utricle. Seed pendulous, attached by a stalk to the base of the utricle, embryo straight. Radicle superior.

Herbs or under-shrubs, with undivided, alternate, or scattered leaves and flowers, collected in spikes or heads.

249. *STATICE*. Cal. scariose. Cor. 5-petalled, persistent. Stam. 5, inserted on the petals. Styles 5. Pericarp indehiscent.—P. 141.

## XIII. PRIMULACEÆ.

Calyx regular, persistent, divided. Corolla regular. Stamens inserted in the cor. opposite the segments, and equal to them in number. Style 1. Stigma capitate. Caps. 1-celled, with a central, free receptacle. Seeds numerous, peltate; embryo transverse, surrounded by the albumen.

250. *ANAGALLIS*. Cal. 5-parted. Cor. rotate, 5-lobed. Stam. 5, hairy. Caps. bursting all round transversely.—P. 141.

251. *LYSIMACHIA*. Cal. 5-parted. Cor. 5-parted, rotate. Stam. 5. Caps. globose, 10-valved.—P. 142.

252. *PRIMULA*. Cal. 5-toothed. Cor. hypocrateriform, the tube cylindrical, its orifice naked. Stam. 5, not ex-

- served. Stig. globose. Caps. opening with 10 teeth.—P. 142.
253. *CENTUNCULUS*. Cal. 4-lobed. Cor. tubular, 4-cleft. Stam. 4, short. Fr. a many-seeded pyxis, (allied to *Primulaceæ*.)—P. 142.
254. *SAMOLUS*. Cal. half-adherent, 5-fid. Cor. hypocrateriform, 5-lobed. Stam. 5 antheriferous, opposite the segments of the cor. and 5 sterile, alternating with them (scales.) Caps. half-inferior, 1-celled, with 5 short valves, and a central, free receptacle. Seeds numerous, fixed near each extremity. Radicle turned towards the hilum of the seed. With alternate, entire leaves; terminal, white, subracemose, or corymbose flowers with bracteated pedicels. Differs from *Primulaceæ*, in having the ovary partly inferior, in the seeds umbilicated at each end, and in the 5 sterile stamens.—P. 142.
255. *GLAUX*. Cal. campanulate, 5-lobed, coloured. Cor. 0. Stam. 5. Caps. globose, 5-valved, 5-seeded.—P. 142.

## XIV. LENTIBULARIÆ.

Calyx persistent, divided. Corolla irregular, spurred, bilabiate. Stamens 2, included, inserted at the base of the cor. Anthers simple. Style 1, short. Stigma 2-lipped. Capsule 1-celled, many-seeded, with a large central receptacle. Seeds small, without albumen.

Aquatic or marsh plants, with radical leaves.

256. *UTRICULARIA*. Cal. 2-parted. Cor. personate, the lower lip spurred at the base. Stam. 2. Filaments, internally at the end, antheriferous.—P. 142.
257. *PINGUICULA*. Cal. 4-5-cleft. Cor. ringent, spurred at the base beneath.—P. 143.

## XV. VERBENACEÆ.

Calyx tubular, persistent. Corolla deciduous and mostly irregular. Stamens mostly didynamous, (rarely equal.) Ovary 2-4 celled, ovules erect, solitary, or in pairs. Style 1. Stigma bifid or entire. Fr. a drupe or berry; embryo straight. Radicle inferior.



258. **VERBENA.** Cal. 5-parted. Cor. infundibuliform, its limb unequal, 5-cleft. Stam. 4, didynamous. Pericarp evanescent. Seeds 4.—P. 143.

#### XVI. MELAMPYRACEÆ.

Calyx divided, deciduous. Corolla personate. Stamens 4, didynamous. Stigma simple. Capsules 2-celled, 2-seeded. Seeds erect, rostellate, with a minute, fleshy albumen, opposite the point of insertion. Radicle superior.

Herbs, with opposite leaves, and spiked flowers half covered with crested bracteæ.

259. **MELAMPYRUM.** Cal. tubular, 4-fid. Cor. tubular, compressed, lips turned back at the margins, lower one trifid. Caps. oblong, oblique. Seeds gibbose at the base.—P. 143.

#### XVII. LABIATÆ.

Calyx tubular. Corolla irregular. Stamens 4, didynamous, (2 are occasionally sterile or wanting.) Style 1. Stigma 2-lobed. Caryopsides 4, inclosed in the calyx. Seed solitary, erect. Embryo erect. Albumen 0.

Plants, with square stems and opposite leaves.

##### a. 2 fertile stamens.

260. **LYCOPUS.** Cal. 5-cleft, mouth naked. Cor. tubular, sub-equal, 4-cleft, upper segment broader, notched. Stam. simple.—P. 143.
261. **SALVIA.** Cal. 2-lipped, upper lip tridentate, lower one bifid. Cor. ringent. Filam. 2-cleft, 1 branch with a dimidiate anther, the other abortive.—P. 143.

##### b. Stamens 4, fertile.

##### γ. Calyx 5 or 10-cleft, sub-regular.

262. **AJUGA.** Cor. upper lip very minute. Stam. exserted. Anth. reniform, 1-celled.—P. 143.
263. **TEUCRIUM.** Cor. upper lip short, 2-partite. Stam. projecting through the cleft.—P. 143.
264. **NEPETA.** Cor. upper lip notched, lower one 3-lobed,

the middle lobe largest and crenate, lateral ones short, reflexed.—P. 144.

- 265. MENTHA. Cor. sub-regular, 4-lobed, broadest lobe notched. Stam. erect, distant.—P. 144.
- 266. GLECHOMA. Cor. upper lip bifid. Anthers approaching in pairs, and forming a cross.—P. 144.
- 267. LAMIUM. Cor. upper lip vaulted, entire, lower one 2-lobed, toothed on each side.—P. 144.
- 268. GALEOPSIS. Cor. upper lip vaulted, notched; lower one 3-lobed, 2-dentate above.—P. 145.
- 269. GALEOBDOLON. Cor. upper lip vaulted, entire; lower one in 3 acute segments.—P. 145.
- 270. BETONICA. Cor. upper lip plane, ascending; lower one 2-lobed; tube cylindrical.—P. 145.
- 271. STACHYS. Cor. upper lip vaulted; lower one 3-lobed, 2 lateral lobes reflexed. Stam. after flowering, reflexed.—P. 145.
- 272. BALLOTA. Cal. 10-ribbed. Cor. upper lip concave, notched.—P. 145.
- 273. MARRUBIUM. Cal. 10-ribbed. Cor. upper lip linear, straight, cloven.—P. 145.
- 274. LEONURUS. Cal. 5-angled. Anthers sprinkled with shining dots.—P. 146.

τ τ. *Calyx 2-lipped.*

- 275. CLINOPODIUM. Bractees many, linear, under each cal. Cor. upper lip erect, emarginate, smaller than the lower.—P. 146.
- 276. ORIGANUM. Bractees and cal. collected in a spiked cone. Cor. upper lip straight, notched.—P. 146.
- 277. THYMUS. Cal. mouth closed with hairs. Cor. 2-lipped.—P. 146.
- 278. MELITTIS. Cal. larger than cor. tube. Cor. upper lip plane. Anthers approaching in pairs, and forming a cross.—P. 146.
- 279. SCUTELLARIA. Cal. upper lip covering the fruit like an operculum.—P. 146.
- 280. PRUNELLA. Cal. upper lip with 3 short teeth. Filam.

forked at the end, one point bearing the anther.—  
P. 146.

### XVIII. SCROPHULARINÆ.

Calyx persistent. Corolla mostly irregular, deciduous, with an imbricated æstivation. Stamens 4, didynamous, (rarely equal, or 2.) Style 1. Stigma 2-lobed, (rarely simple.) Capsule 2-celled, 2-4-valved, with a central receptacle and numerous seeds. Embryo straight in the axis of a fleshy albumen.

a. *Stamens 4.*

τ. *Calyx 4-fid.*

- 281. EUPHRASIA. Cal. tubular, 4-toothed. Cor. upper lip divided. Anthers with mucronate lobes. Caps. ovate, oblong, 2-celled. Seeds striate.—P. 147.
- 282. BARTSIA. Cal. mostly coloured. Cor. ringent, upper lip concave, longest entire. Caps. ovate, compressed, 2-celled, many-seeded. Seeds angular.—P. 147.
- 283. RHINANTHUS. Cal. inflated, 4-toothed. Cor. upper lip laterally compressed. Caps. compressed, 2-celled. Seeds many, plane, imbricated.—P. 147.

τ τ. *Calyx 5-cleft.*

- 284. PEDICULARIS. Cal. inflated. Cor. upper lip arched, laterally compressed. Caps. compressed, 2-celled. Seeds angular.—P. 147.
- 285. ANTIRRHINUM. Cor. personate, with a deflexed prominence, or spur, at the base. Caps. 2-celled.—P. 147.
- 286. SCROPHULARIA. Cor. subglobose, shortly 2-lipped, with an internal, intermediate scale. Caps. 2-celled.—P. 148.
- 287. DIGITALIS. Cal. 5-parted. Cor. campanulate, ventricose beneath. Caps. ovate, 2-celled, many-seeded.—P. 148.
- 288. SIBTHORPIA. Cor. sub-rotate. Stam. approximating in pairs. Caps. compressed, 2-celled, orbicular.—P. 148.

b. *Stamens* 2.

289. *VERONICA*. Cal. 4-cleft. Cor. rotate, 4-cleft, lower segment narrower. Caps. 2-celled.—P. 148.

XIX. *OROBANCHEÆ*.

Calyx and corolla 5-cleft, persistent, the latter irregular. Stamens didynamous. Stigma 2-lobed. Caps. 1-2, or many-celled, 2-valved. Seeds small, with a fleshy albumen.

Parasitical leafless herbs.

290. *OROBANCHE*. Cal. of 2 lateral, lobed segments. Cor. ringent. Caps. 1-celled, 2-valved, many-seeded.—P. 149.

XX. *SOLANEÆ*.

Calyx 5-parted, persistent. Cor. 5-cleft, deciduous, with a plicate æstivation. Stam. 5, alternating with the segments of the cor. Style 1. Pericarp 2-4-celled. Capsular or baccate. Seeds numerous, embryo in a fleshy albumen.

291. *VERBASCUM*. Cor. rotate, 5-lobed, unequal. Stam. declined, mostly hairy. Caps. ovate or globose, 2-valved.—P. 150.
292. *HYOSCYAMUS*. Cal. tubular. Cor. infundibuliform, irregular. Stigma capitate. Caps. ovate, 2-celled, operculate.—P. 150.
293. *SOLANUM*. Cor. rotate, 5-cleft, patent. Anthers erect, connivent, opening with 2 pores at the end. Berry subglobose, 2-celled.—P. 150.

XXI. *BORAGINEÆ*.

Calyx 5-parted, persistent. Cor. mostly regular and 5-cleft, with imbricated æstivation. Stam. alternating with the segments of the corolla, and of the same number. Achenia 4, or a 4-celled drupe, with 2-4 stones. Seeds definite, pendulous. Radicle superior.



Herbs or shrubs, with alternate, (mostly) scabrous leaves, without stipules, and flowers (mostly) in 1-sided spikes or racemes.

294. MYOSOTIS. Cor. hypocrateriform, the segments very obtuse. Orifice closed with short, connivent scales. Nuts imperforate at the base.—P. 150.
295. LITHOSPERMUM. Cal. not prism-shaped. Cor. infundibuliform. Orifice naked.—P. 151.
296. ANCHUSA. Cor. infundibuliform. Orifice closed with convex scales. Nuts with a cavity at the base.—P. 151.
297. CYNOGLOSSUM. Cor. shortly infundibuliform. Orifice closed with convex scales. Nuts fixed to the base of the style.—P. 151.
298. SYMPHYTUM. Cor. ventricose. Orifice closed with subulate scales.—P. 151.
299. BORAGO. Cor. rotate. Orifice closed by 5 obtuse, emarginate teeth.—P. 151.
300. ECHIUM. Cor. irregular. Orifice naked. Stig. bipartite.—P. 152.
301. LYCOPSIS. Cor. infundibuliform. Tube curved. Orifice closed with convex scales.—P. 152.

## XXII. CONVULVACEÆ.

Calyx 5-parted, persistent. Corolla deciduous, with a regular, 5-lobed limb. Stam. 5, inserted into the base of the cor. and alternating with its segments. Ovary simple, 2-4-celled, surrounded by a hypogynous disk. Ovules definite, erect. Caps. 1-4 celled. Margins of the valves opposite the free dissepiment. Embryo curved, surrounded by mucilaginous albumen. Cotyledons wrinkled.

Herbs or shrubs, usually climbing and lactescent, with alternate, stipuled leaves.

302. CONVULVULUS. Cal. naked or imbricate, with 2 smaller bracteas. Cor. campanulate, plicate. Stam. shorter than the limb. Stigmas 2, filiform. Caps. 2-3-celled, 2-3 valved. Cells 2-seeded.—P. 152.
303. CUSCUTA. Cal. 4-5 cleft. Cor. campanulate, 4-5 lobed. Caps. bursting all round transversely, 2-celled, cells 2-seeded. (Parasitic leafless herbs.)—P. 152.



## XXIII. GENTIANEÆ.

Calyx persistent, 4-8 parted. Corolla mostly regular, withering or deciduous. Limb equal, having the same number of divisions as the calyx, and an imbricated æstivation. Stamens alternating with the segments, and equal in number. Style 1 or 2. Stigmas 1 or 2. Capsule 1-2-celled, mostly 2-valved, many-seeded. Seeds small, attached to the margins of the valves in the 1-celled genera, and in the others to a central receptacle. Embryo straight, in the axis of a fleshy albumen.

Mostly herbaceous plants, with opposite leaves and no stipules.

304. *GENTIANA*. Cal. 4-5 cleft. Cor. campanulate or infundibuliform, orifice naked. Stigma 2-lobed. Caps. 1-celled. Seeds not margined.—P. 152.
305. *EXACUM*. Cor. salver-shaped. Caps. 2-celled, many-seeded, opening at top.—Part 1, p. 46.
306. *ERYTHRÆA*. Cal. 5-cleft. Cor. infundibuliform, the limb short. Anthers, after flowering, spiral. Style erect. Stigmas 2. Caps. linear.—P. 152.
307. *CHLORA*. Cal. 8-partite. Cor. 8-partite. Stam. 8. Caps. 1-celled.—P. 153.
308. *MENYANTHES*. Cal. 5-partite. Cor. infundibuliform, its limb patent, 5-lobed, equal, hairy within. Stam. 5. Style 1. Stigma capitate. Caps. 1-celled.—P. 153.

## XXIV. APOCINEÆ.

Calyx 5-parted, persistent. Corolla regular, 5-lobed, deciduous, with an imbricated æstivation. Stam. inserted in the cor. and alternating with its segments. Anthers 2-celled, bursting longitudinally. Ovaries 2, 1-2-celled, (mostly) many-seeded. Style 1 or 2. Stigma 1. Embryo leafy.

309. *VINCA*. Cor. hypocrateriform, the tube long, the orifice prominent, pentagonal. Style 1. Stigma annulated at the base. Follicles 2, erect.—P. 153.

## XXV. OLEINEÆ.

Flowers perfect or polygamous. Calyx divided, persistent. Corolla 4-cleft, (rarely of 4 petals, or 0.) Stamens 2, alternate with the segments. Ovary simple, 2-celled, cells 2-seeded. Ovules pendulous, collateral. Fr. a drupe, berry, or capsule, often by abortion, 1-seeded. Embryo in a fleshy albumen. Cotyledons leafy.

Trees or shrubs, with opposite leaves and paniced or racemed flowers, their stalks opposite, each with 1 bractea.

310. *FRAXINUS*. Cal. 0. Cor. 0, or of 4 petals. Caps. 2-celled, 2-seeded, compressed, and foliaceous at the end. seeds solitary.—P. 153.

311. *LIGUSTRUM*. Cal. minute, 4-toothed. Cor. regular, limb 4-cleft, patent. Berry 2-4 seeded.—P. 153.

## XXVI. ERICEÆ.

Calyx inferior, persistent, 4-5 cleft. Corolla 4-5 cleft, usually withering, with an imbricated æstivation. Stamens 8-10, hypogynous or perigynous. Anthers 2-celled, often furnished with an appendage to their base, and emitting their pollen through a pore. Ovary surrounded by a disk or secreting glands, many-celled. ovules numerous. Style 1. Fr. a capsule or berry. Seeds minute, attached to central receptacles. Embryo cylindrical, in the axis of a fleshy albumen.

312. *ERICA*. Cal. 4-partite. Cor. 4-partite. Stam. 8. Anthers before flowering, connected by 2 lateral pores. Caps. 4-celled, 4-valved, dissepiments from the middle of the valves.—P. 153.

313. *CALLUNA*. Cal. double, 4-partite, the inner one coloured. Caps. with dissepiments opposite the margins of the valves, and separating with them, (the other characters as in *Erica*.)—P. 153.

## XXVII. VACCINEÆ.

Calyx adherent, persistent, 4-5 cleft. Corolla deciduous, 4-5 cleft. Stamens definite, epigynous. Anthers 2-

celled, emitting their pollen through a pore. Ovary 5-celled. Style 1. Fr. a many-seeded berry, crowned by the calyx. Seeds minute, attached to central receptacles.

Shrubs, with alternate, entire, shining leaves, without stipules, and, for the most part, racemose flowers.

314. *VACCINIUM*. Cal. 4-toothed. Cor. campanulate, 4-parted. Anthers with 2 pores. Berry globose, 4-celled, many-seeded.—P. 154.

### XXVIII. CAMPANULACEÆ.

Calyx superior, 5-cleft. Corolla 5-cleft. Stamens 2. Style single. Disk epigynous. Capsule 2-3-5 celled, bursting either at the summit or sides. Seeds numerous. Albumen fleshy.

315. *CAMPANULA*. Cor. campanulate, filaments broader at the base. Stigma 3-cleft. Caps. 3-5 celled, laterally perforate.—P. 154.
316. *JASIONE*. Cor. rotate. Anthers united at the base. Stigma clavate. Caps. 2-celled, opening at the top. (Flowers aggregate, on a common receptacle.)—P. 154.
317. *LOBELIA*. Cor. irregular, cleft on the upper side longitudinally. Anthers united in a tube. Caps. 2-3 celled.—P. 154.

#### 3. *Corolla epigynous.*

### XXIX. COMPOSITÆ.

Calyx adherent with the ovary, entire, or toothed, or (mostly) a pappus crowning the fruit. Corolla regular or irregular. Stamens 5, syngenesious. Style 1. Stigma simple or bifid. Fruit an achenium. Seed erect, without albumen. Embryo straight. Radicle opposite the hilum.

Herbaceous plants, with capitate flowers, on a broad receptacle, surrounded by an involucre.



## DIV. 1. CICHORACEÆ.

*All the florets ligulate and perfect.*

318. TRAGOPOGON. Invol. simple, many-leaved. Recept. naked. Pappus stipitate, feathered. Pericarps longitudinally striate.—P. 154.
319. PICRIS. Cal. double; inner equal; outer lax, and shorter. Recept. naked. Pappus sessile, feathery. Per. transversely striate.—P. 154.
320. HELMINTHIA. Cal. double; the inner 8-leaved, equal; the outer 5-leaved, length of the inner. Pappus feathered, pedicelled. Pericarps transversely striate.—Part 1, p. 129.
321. SONCHUS. Invol. imbricated, swelling at the base. Recept. naked. Pappus simple, sessile.—P. 154.
322. LEONTODON. Invol. imbricated with flaccid scales. Recept. naked. Pappus simple, stipitate.—P. 155.
323. APARGIA. Invol. imbricated with scales at the base. Recept. naked, dotted. Pappus feathered, sessile, unequal.—P. 155.
324. HIERACIUM. Invol. imbricated, ovate. Recept. nearly naked, dotted. Pappus simple, sessile.—P. 155.
325. CREPIS. Invol. surrounded with deciduous scales, and at length swelling into protuberances. Recept. roughish. Pappus sessile.—P. 156.
326. HYPOCHÆRIS. Invol. oblong, imbricated. Recept. chaffy. Pappus feathered.—P. 156.
327. LAPSANA. Invol. with scales at the base. Recept. naked. Pappus 0.—P. 156.
328. CICHORIUM. Invol. with scales or smaller leaflets at the base. Recept. naked, or slightly hairy. Pappus sessile, scaly, shorter than the pericarp.—P. 156.

## DIV. 2. CINAROCEPHALÆ.

*Corollas all tubular and spreading.*

329. ARCTIUM. Invol. globose, each scale with an incurved hook at the top. Recept. chaffy. Pappus simple.—P. 156.

330. *SERRATULA*. Invol. cylindrical, imbricated with scales that are not spinous. Recept. chaffy. Pappus roughish or feathered, rigid, persistent.—P. 156.
331. *CARDUUS*. Invol. swelling, imbricated with spinous scales. Recept. hairy. Pappus deciduous, roughish.—P. 156.
332. *CNICUS*. Invol. swelling, imbricated with spinous scales. Recept. hairy. Pappus deciduous, feathered.—P. 157.
333. *CARLINA*. Invol. swelling, the exterior scales spinous, inner ones coloured, scariose. Recept. chaffy. Pappus feathered.—P. 157.
334. *CENTAUREA*. Invol. scaly. Recept. bristly. Fl. of the ray infundibuliform, sterile, irregular, longer than those of the disk. Pappus simple.—P. 157.

## DIV. 3. CORYMBIFERÆ.

*Tubular, crowded, erect and parallel, or with those of the circumference ligulate.*

1. *DISCOIDEE*. *Florets tubular, crowded, erect, parallel, nearly plane at the top.*
335. *BIDENS*. Invol. many-leaved, bracteated at the base. Recept. plane, chaffy. Pericarps with from 2-5 persistent awns.—P. 158.
336. *EUPATORIUM*. Invol. oblong, imbricated. Recept. naked. Pappus rough.—P. 158.
337. *TANACETUM*. Invol. imbricated, hemispherical. Recept. naked. Fl. of ray trifid or wanting. Pericarps crowned with membranous margin.—P. 158.
338. *ARTEMISIA*. Invol. imbricated. Recept. naked or villose. Fl. of ray subulate. Per. crowned with membranous pappus.—P. 158.
339. *GNAPHALIUM*. Invol. imbricated, with membranous coloured scales. Recept. naked. Fl. of ray subulate. Pappus rough.—P. 159.
340. *CONYZA*. Invol. roundish, imbricated. Recept. naked. Fl. of ray 3-cleft. Pappus rough.—P. 159.



2. *RADIATI. Florets of the circumference ligulate.*

341. *TUSSILAGO.* Invol. simple, equal, submembranaceous, swelling. Recept. naked. Pappus simple.—P. 159.
342. *SENECIO.* Invol. subcylindrical, equal, scaly below, scales withered at tip. Recept. naked. Pappus simple.—P. 159.
343. *ASTER.* Invol. imbricated. Recept. naked. Fl. of ray more than 10. Pappus simple.—P. 160.
344. *SOLIDAGO.* Invol. imbricated with connivent scales. Recept. naked. Fl. of ray about 5. Pappus rough.—P. 160.
345. *INULA.* Invol. imbricated. Recept. naked. Fl. of ray linear, very numerous. Anthers with 2 bristles at the base.—P. 160.
346. *BELLIS.* Invol. hemispherical, with equal scales. Recept. naked, conical. Pappus 0.—P. 160.
347. *CHRYSANTHEMUM.* Invol. hemispherical, imbricated with scales, membranaceous at margin. Recept. naked. Pappus 0.—P. 160.
348. *PYRETHRUM.* Invol. hemispherical, imbricated with scales, membranaceous at margin. Recept. naked. Pericarps crowned with membranaceous margin.—P. 160.
349. *MATRICARIA.* Invol. imbricated. Scales with membranous borders. Recept. naked, almost cylindrical. Pappus 0.—P. 161.
350. *ANTHEMIS.* Invol. hemispherical. Scales nearly equal. Margins scarious. Recept. convex, chaffy. Pericarps crowned with membranous border.—P. 161.
351. *ACHILLEA.* Invol. imbricated, ovate, unequal. Recept. plane, chaffy. Fl. of ray 5-10, roundish, obcordate. Pericarps naked.—P. 161.

XXX. *DIPSACEÆ.*

Calyx adherent with the ovary. Corolla 4-5-cleft. Anthers free. Style simple. Pericarp indehiscent, 1-celled, 1-seeded. Seed pendulous. Embryo straight.

Herbs, usually with opposite leaves, and capitate flowers on a chaffy receptacle.

352. **DIPSACUS.** Invol. many-leaved. Cal. double, exterior one minute, interior one cup-shaped, entire. Cor. 4-lobed. Stam. 4. Recept. chaffy, spinous. Pericarp angular, crowned with the double calyx.—P. 161.
353. **SCABIOSA.** Invol. many-leaved. Cal. double, exterior one membranous, interior one bristly. Cor. 4-5-lobed. Stam. 4-5. Pericarp crowned with the double cal.—P. 162.

## XXXI. VALERIANEÆ.

Calyx adherent with the ovary. Corolla tubular, 5-lobed, mostly irregular. Stam. 1-5. Style 1. Stig. 1-3. Pericarp indehiscent, 1-3-celled, 1-3-seeded. Seeds pendulous. Embryo straight, without albumen.

Herbs, with opposite leaves, and corymbed or paniced flowers.

354. **VALERIANA.** Cal. involute, unfolding into a feathery pappus. Cor. 5-cleft, gibbous or spurred at the base. Stam. 1-3. Pericarp crowned by the pappus. Seed 1.—P. 162.
355. **FEDIA.** Cal. toothed. Cor. 5-cleft, gibbous at the base. Stam. 2. Pericarp 3-celled, 2 cells usually abortive.—P. 162.

## XXXII. RUBIACEÆ.

Calyx adherent with the ovary. Corolla regular, 4-5-lobed. Stam. 4-5, between the segments of the cor. Style bifid. Stigma double. Disk epigynous, composed of 2 circular glands. Pericarp di-coccous. Cocci indehiscent, separating from a central receptacle. Seeds peltate. Embryo in the axis of a corneous albumen.

Herbs, with whorled, entire leaves.

356. **SHERARDIA.** Cor. funnel-shaped. Fr. crowned with the calyx.—P. 162.
357. **ASPERULA.** Cor. funnel-shaped. Fr. not crowned with the cal.—P. 162.
358. **GALIUM.** Cor. rotate, 4-cleft. Fr. a dry nut crowned with the cal.—P. 163.
359. **RUBIA.** Cor. campanulate. Fr. a berry.—P. 163.

## XXXIII. LONICEREÆ.

Calyx bracteate. Corolla tubular. Stamens 4-5, between the segments of the cor. Style simple or none. Stigmas 1-3. Fr. a berry or drupe, with 1 or more cells. Seeds pendulous, with a fleshy albumen. Radicle superior.

360. LONICERA. Cal. 5-toothed. Cor. irregular, 5-cleft. Stam. 5. Berry 1-3-celled. Cells many-seeded.—P. 164.
361. VIBURNUM. Cal. 5-fid. Cor. 5-lobed. Stam. 5. Berry 1-seeded.—P. 164.
362. SAMBUCUS. Cal. minute, 5-fid. Cor. rotate, 5-lobed. Stam. 5. Berry 1-celled, 3-seeded.—P. 164.

C. *Perianth double, Corolla polypetalous.*

1. *Corolla perigynous.*

## XXXIV. HEDERACEÆ.

Calyx adherent with the ovary, 4-5-toothed, not bracteate. Corolla of 4-5 petals. Stamens 4-5. Style simple. Fr. a berry or drupe, with one or more cells. Seeds definite, pendulous, with a fleshy albumen.

363. HEDERA. Cal. 5-toothed. Pet. 5. Stam. 5, alternating with the petals. Berry 5-seeded, crowned by the calyx.—P. 164.
364. CORNUS. Cal. 4-toothed. Pet. 4. Stam. 4, alternating with the petals. Drupe not crowned, its nut 2-celled, cells 2-seeded.—P. 164.

## XXXV. LORANTHEÆ.

Calyx adherent with the ovary, usually double or bracteate. Cor. polypetalous or none. Style 1. Stigma 1. Fr. fleshy or dry, with 1 seed fixed to the top of the cell. Embryo cylindrical, in the axis of a fleshy albumen.

Mostly parasitic shrubs on trees.

365. VISCUM Monœcious or diœcious. Petals 4, connate. *Barren* fl. Anthers 4, sessile, adnate with the cor.

*Fertile fl.* Ovary crowned with the margin of the cal.  
Fr. a globose, 1-seeded drupe.—P. 164.

## XXXVI. UMBELLIFERÆ.

Calyx adherent with the ovaries, 5-toothed. Corolla of 5 bifid petals, often radiating. Stamens 5, alternating with the petals, inserted in a thick epigynous disk. Styles 2. Caryopsides 2, ribbed, attached to a central stalked receptacle, separating when ripe. Seeds solitary, pendulous. Albumen corneous.

Herbs, with alternate leaves, generally compound and embracing the stem with their peduncle. Flowers in umbels.

a. *With a general and partial involucre.*

366. *ERYNGIUM*. Fl. sessile, capitate. Recept. conical, chaffy. Fr. bristly.—P. 165.
367. *HYDROCOTYLE*. Fl. in a simple imperfect umbel. Cal. 0. Pet. equal, ovate, entire. Fr. laterally compressed, striate.—P. 165.
368. *SANICULA*. Fl. clustered in subcapitate umbellules. Central florets abortive. Pet. obcordate. Fr. clothed with hooked bristles.—P. 165.
369. *TORILIS*. Involucres undivided. Fl. equal. Fr. ovate, ribbed, clothed with bristles.—P. 165.
370. *DAUCUS*. Involucre pinnatifid. Fl. sub-radiate. Fr. oblong, with 5 muricate ribs, their intervals bristly.—P. 165.
371. *BUNIUM*. Involucella of many setaceous leaves, (often wanting. Fl. equal. Fr. oblong, with acute ribs, their intervals tuberculate.—P. 166.
372. *CONIUM*. Involucella 3-leaved, dimidiate. Petals sub-equal. Fr. ovate, with 5 obtuse, crenulate ribs, their intervals plane.—P. 166.
373. *BUPLEURUM*. Involucella 5-leaved, ovate. Pet. involute. Fr. compressed, striated.—P. 165.
374. *PEUCEDANUM*. Involucella very short, setaceous. Fl. polygamous. Fr. compressed, striate, bordered.—P. 166.
375. *CRITHMUM*. Cal. entire. Pet. equal, entire, broadest at the base. Fr. oval, striate.—P. 166.

376. **HERACLEUM.** Involucres and involucella deciduous. Fl. radiate. Pet. bifid. Fr. compressed, with a membranaceous margin, and dorsal obtuse ribs.—P. 166.
377. **ANGELICA.** Fl. equal, entire. Fr. subcompressed, with acute, winged ribs, their intervals sulcate.—Part 1, p. 50.
378. **SIUM.** Involucre (mostly) many-leaved. Umbels many-rayed. Fr. sub-oval, laterally compressed, striate.—P. 166.
379. **SISON.** Involucre 1-4 leaves. Umbel of few rays. Fr. ovate, striate.—P. 166.
380. **CENANTHE.** Fl. radiate, polygamous. Fr. prism-shaped, ribbed, crowned by the cal. and styles.—P. 167.

b. *With involucella only.*

381. **PHELLANDRIUM.** Fl. equal, all fertile. Fr. ovate, smooth, ribbed, crowned by the cal. and styles.—P. 167.
382. **ÆTHUSA.** Involucella 3-leaved, dimidiate, deflexed. Fr. ovate, with acute ribs.—P. 167.
383. **SCANDIX.** Involucella cut, or pinnate. Fr. oblong, with a long scabrous beak.—P. 167.
384. **ANTHRISCUS.** Styles persistent. Fr. ovate, hispid, with a short, glabrous beak.—P. 167.
385. **CHÆROPHYLLUM.** Involucella of about 5 concave reflexed leaves. Fr. linear, oblong, glabrous, smooth, or striate.—P. 167.

c. *With neither.*

386. **SMYRNIUM.** Fl. central ones barren. Fr. roundish, gibbous, ribbed. Seeds reniform, angular.—P. 168.
387. **ANETHUM.** Fl. all fertile. Fr. oblong, subcompressed, with 3 ribs on each side.—P. 165.
388. **PIMPINELLA.** Fl. sub-equal. Styles erect. Stigmas globose. Fr. ovate, glabrous, with obtuse ribs, their intervals subconvex.—P. 168.
389. **APIUM.** Fl. equal. Styles reflexed. Fr. roundish, with obtuse ribs, their intervals plane.—P. 168.



390. *ÆGOPodium*. Fl. unequal. Stigmas simple. Fr. ovate, oblong, ribbed.—P. 168.

## XXXVII. SAXIFRAGÆ.

Calyx superior or inferior, 4-5-cleft. Cor. 4-5 petals, (occasionally absent.) Stam. 8-10, half opposite, half alternating with the petals. Styles 2-5. Disk surrounding the mouth of the cal. Fr. a many-seeded capsule, or berry; seeds with a fleshy albumen.

391. *Saxifraga*. Cal. free or adherent, 5-parted. Cor. of 5 petals. Stam. 10. Caps. 2-beaked, 2-celled, many-seeded, opening between the beaks.—P. 168.
392. *Chrysosplenium*. Cal. adherent, 4-5 cleft, subcoroloid. Cor. none. Stam. 8-10. Styles 2. Caps. 2-beaked, 1-celled, many-seeded.—P. 168.
393. *Adoxa*. Cal. adherent with the fr. 3-cleft. Cor. 4-5 cleft. Stam. 8-10. Styles 4-5. Berry 4-5 celled.—P. 168.

## XXXVIII. GROSSULARIÆ.

Calyx superior, 5-cleft. Cor. 5-petalled. Stamens 5, opposite the petals. Style 1. Stigma double. Berry 1-celled, many-seeded. Placenta parietal. Seeds with a corneous albumen.

394. *Ribes*. Cal. urceolate. Pet. 5. Stam. 5.—P. 168.

## XXXIX. ONAGRARIÆ.

Calyx superior, 2-4-cleft. Cor. of 2-4 petals. Stamens definite. Style 1. Stigma 2-4-cleft. Caps. 2-4-celled, 1-many-seeded. Embryo straight.

395. *Circæa*. Cal. 2-leaved. Cor. 2-petalled. Stam. 2. Caps. 2-celled. Cells 1-seeded.—P. 169.
396. *Epiobium*. Cal. 4-parted, deciduous. Cor. 4-petalled. Stam. 8. Caps. elongated, obtusely 4-sided, 4-celled, 4-valved, many-seeded. Seeds comose.—P. 169.

## XL. SALICARIÆ.

Calyx inferior, 6-12-cleft. Cor. of 6 petals, or 0. Stam. 6-12. Caps. 2-valved, with central septa, 2-celled, many-seeded. Embryo straight.

Herbs, with axillary flowers, often in a whorled spike.

397. *LYTHRUM*. Cal. cylindrical, with 12 teeth. Pet. 6. Stam. 12, in 2 rows. Caps. oblong.—P. 169.

398. *PEPLIS*. Cal. campanulate, teeth alternately reflexed. Stam. 6, short.—P. 170.

## XLI. ILLECEBREÆ.

Calyx 5-parted. Pet. 5, often resembling scales or barren filaments, or wanting. Stamens definite, mostly 5. Anthers round. Fruit capsular, either 1-seeded, closed, or opening at the top, or 1 or many-celled, with many valves at the top. Albumen farinaceous.

Herbs or under-shrubs, with opposite branches and leaves.

399. *SCLERANTHUS*. Cal. tubular, contracted, 5-cleft above, Pet 0. Stam. 10, inserted on the top of the cal. Styles and stigmas 2. Caps. 1-seeded.—P. 170.

400. *ILLECEBRUM*. Cal. cartilaginous, 5-parted. Pet. 0. Caps. 5-valved, 1-seeded, enclosed in the connivent cal.—P. 170.

*(Thus far the stamens in all the orders are definite.)*

## XLII. POMACEÆ.

Calyx superior, divided. Stamens indefinite, inserted in a disk round the mouth of the cal. Fruit a pome. Seed ascending without albumen. Embryo straight.

401. *PYRUS*. Cal. 5-cleft. Petals 5. Fr. 5-celled. Cells 2-seeded, closed. Testa cartilaginous.—P. 170.

402. *CRATÆGUS*. Cal. persistent. Fr. closed with from 2-5 2-seeded nuts. Testa membranous.—P. 170.

403. *MESPILUS*. Cal. 5-cleft. Style glabrous. Fr. open at the top, with from 2-5 2-seeded, elongated nuts.—P. 170.

## XLIII. ROSACEÆ.

Calyx inferior, divided. Stamens indefinite, (rarely definite,) inserted in a disk surrounding the mouth of the cal. Fr. an aggregation of achenia, or follicles, inclosed in the tube of the calyx, and attached to an exerted receptacle. Seeds suspended without albumen. Cotyledons broad.

Plants, with alternate leaves and stipules.

## DIV. 1. ROSACEÆ.

*Achenia inclosed in the fleshy urceolate tube of the calyx, and enveloped in the hairs of the receptacle.*

404. ROSA.—P. 171.

## DIV. 2. POTENTILLÆ.

*Achenia attached to a usually fleshy exerted receptacle.*

405. GEUM. Cal. 10-cleft, the alternate segments minute. Pet. 5. Pericarps with a long, geniculated awn. Recept. oblong.—P. 171.

406. AGRIMONIA. Cal. 5-cleft, with a lobed appendage. Pet. 5. Stam. 12. Pericarps 2, in the bottom of the cal.—P. 171.

407. RUBUS. Cal. 5-cleft. Fr. a cluster of many 1-seeded, connate drupes, on a dry receptacle.—P. 171.

408. FRAGARIA. Cal. 10-cleft, segments alternately smaller. Pet. 5. Pericarps inserted on a large pulpy receptacle.—P. 172.

409. POTENTILLA. Cal. 8-10 cleft. Segments alternately smaller. Pet. 4-5. Pericarps roundish, fixed to a small dry receptacle.—P. 172.

## DIV. 3. SANGUISORBÆÆ.

*Achenia inclosed in the calyx. Stamens mostly definite.*

410. ALCHEMILLA. Cal. 8-cleft, segments alternately smaller. Stam. 1-5. Achenium 1.—P. 172.

410.\*POTERIUM. Monœcious. Cal. 4-leaved. Cor. 4-partite. Barren fl. Stam. 30-40. Fertile fl. Pericarps 2.—Part 1, p. 154.

411. SANGUISORBA. Cal. 4-lobed, coloured, bracteated at the base. Achenia 2, surrounded by the persistent base of the cal.—P. 173.

DIV. 4. AMYGDALÆ.

*Stamens indefinite. Drupe solitary, naked.*

412. PRUNUS. Cal. 5-cleft. Pet. 5. Nut of the drupe nearly smooth.—P. 173.

DIV. 5. SPIRÆÆ.

*Stamens indefinite. Follicles few-seeded.*

413. SPIRÆA. Cal. 5-cleft. Pet. 5. Pericarps 3-12.—P. 173.

XLIV. LEGUMINOSÆ.

Calyx inferior, 5-cleft. Corolla papilionaceous, 5-petalled. Stam. 10, monadelphous, diadelphous, or distinct. Style and stigma 1. Legumen 2-valved, dehiscent or indehiscent. Placenta marginal. Radicle recurved on the large thick cotyledons.

Herbs or shrubs, with alternate compound leaves furnished with general and partial stipules.

a. *Stamens monadelphous.*

414. GENISTA. Cal. 2-lipped, 2 and 3-toothed. Standard reflexed.—P. 173.  
 415. ULEX. Cal. 2-leaved, small scale each side the base. Legume scarcely longer than the cal.—P. 174.  
 416. ONONIS. Cal. 5-cleft, divisions linear. Standard striate. Legume sessile.—P. 174.  
 417. ANTHYLLIS. Cal. 5-toothed, inflated. Legume small, rounded, 1-3-seeded, included.—P. 174.

b. *Stam. diadelphous, 9 united, 1 free.*

τ. *Style pubescent.*

418. OROBUS. Cal. obtuse at the base, upper segment deeper and shorter. Style linear, cylindrical, downy above.—P. 174.

419. **LATHYRUS.** Cal. with 2 upper segments shorter. Style plane, broader upwards, and downy.—P. 174.  
 420. **VICIA.** Style bearded beneath the stigma.—P. 174.  
 421. **ERVUM.** Stigma capitate, hairy all over.—P. 175.

ττ. *Style glabrous.*

422. **ORNITHOPUS.** Legume jointed, curved, cylindrical.—P. 175.  
 423. **HIPPOCREPIS.** Legume compressed, curved, membranaceous, one suture deeply notched.—P. 175.  
 424. **TRIFOLIUM.** Flowers more or less capitate. Legume (mostly) shorter than the cal. one or many-seeded, deciduous, indehiscent.—P. 176.  
 425. **LOTUS.** Cor. wings cohering by the upper edge. Filam. dilated above. Legume straight, cylindrical.—P. 177.  
 426. **MEDICAGO.** Legume membranaceous, compressed, falcate, or spirally twisted.—P. 177.

XLV. RHAMNEÆ.

Calyx inferior, 4-5-parted, with a valvular æstivation. Petals 4-5. Stamens 4-5, opposite to, and often hooded by the petals. Ovary 2-3-celled. Ovulum solitary, erect. Fr. a berry, drupe, or capsule. Embryo in the axis of a fleshy albumen.

Shrubs or trees, with simple alternate leaves and stipules.

427. **RHAMNUS.** Cal. urceolate. Berry 2-4-celled, 2-4-seeded.—P. 177.

XLVI. CELASTRINÆ.

Calyx inferior, 4-5-parted, with an imbricated æstivation. Petals 4-5. Stamens 4-5, alternating with the petals. Styles 1-4. Fr. capsular, or closed (baccate, drupaceous, or winged.) Seeds (in the capsular genera) with an arillus. Embryo in the axis of a fleshy albumen.

428. **EUONYMUS.** Cal. plane, 4-5-cleft. Caps. 5-angled, 5-celled, 5-valved. Seeds covered by a coloured cup-like arillus.—P. 178.



429. *ILEX*. Cor. rotate, 4-5 cleft. Stig. 4, sessile. Drupe rounded. Nuts 4, 1-seeded, (some fl. have anthers only.)—P. 178.

2. *Corolla hypogynous*.

XLVII. *HYPERICINEÆ*.

Cal. 4-5 parted. Petals 4-5. Stam. indefinite, polyadelphous. Styles and stigmas several. Caps. dry or baccate, 1 or many-celled, many valved. Seeds numerous, minute, attached to parietal or axile placentas. Embryo straight.

Herbs or shrubs, with opposite leaves, and flowers in opposite corymbs.

430. *HYPERICUM*. Cal. 5-parted. Pet. 5. Filam. collected at the base in 3 or 5 bundles. Styles 2-3 or 5. Caps. with 2-3 or 5 cells.—P. 178.

XLVIII. *ACERACEÆ*.

Cal. monophyllous. Pet. inserted round a hypogynous disk. Stam. definite, inserted in the centre of the same disk. Style and stigma 1, (rarely double.) Fr. of many cells, or many capsules, placed on the disk. Seeds definite, suspended, without albumen.

Trees or shrubs, leaves opposite, without stipules. Flowers in racemes or corymbs.

431. *ACER*. Cal. 5-cleft. Pet. 5. Stam. 8. Samaræ 2, united at the base, 1-celled, 1 or 2-seeded.—P. 179.

XLIX. *TILIACEÆ*.

Cal. 5-parted. Pet. 5. Stam. indefinite. Ovary 5-celled. Style 1. Stig. 5-lobed. Pericarp (by abortion) 1-celled, 1-seeded. Seeds peltate. Embryo transverse in the axis of a farinaceous albumen. Cotyledons foliaceous, lobed.

Trees, with alternate, stipuled leaves, and corymbed flowers.

432. *TILIA*. Cal. deciduous. Pericarp coriaceous, 5-celled. Cells 2-seeded.—P. 179.

## L. MALVACEÆ.

Cal. 5-cleft. Cor. regular, 5-petalled. Stam. indefinite, monadelphous, often bearing the petals on their base. Style 1. Stig. several. Fr. composed of many cells and many valves, with central septa, or of many capsules placed in a whorl round the style. Seeds solitary, ascending. Embryo curved. Cotyledons leafy, plaited.

433. *LAVATERA*. Cal. double; ext. one 3-cleft. Styles many. Caps. many, circularly arranged, 1-seeded.—P. 179.

434. *MALVA*. Cal. double; ext. one of 3 leaves. Styles many. Caps. many, circularly arranged, 1-seeded.—P. 179.

## LI. GERANIACEÆ.

Cal. 5-leaved. Pet. 5. Stam. 10, sometimes monadelphous. Style 1. Stig. 5. Caps. 5-celled, 5-valved. Valves elastically separating from their axis, and remaining attached by the persistent style. Seeds erect, 1 in each cell, without albumen. Embryo doubled.

Herbs, with alternate stipulated leaves.

435. *ERODIUM*. Monogynous. Cal. 5-leaved. Pet. 5. Nectariferous glands 5. Stam. 10, the 5 alternate ones imperfect. Fr. beaked, separating into 5 one-seeded capsules, each with a spiral internally bearded awn.—P. 180.

436. *GERANIUM*. Monogynous. Cal. 5-leaved. Pet. 5, regular. Nect. glands 5. Stam. 10. Fr. beaked, separating into 5 one-seeded capsules, each with a naked simple awn.—P. 180.

## LII. OXALIDEÆ.

Calyx inferior, 5-leaved, with an imbricated æstivation. Pet. 5, regular. Stam. 10, monadelphous, alternately shorter. Caps. rostrate, 5-celled, 10-valved. Valves cohering by the axis. Seeds suspended, thrown from the capsule by the elastic rupture of the outer coat of

the testa. Embryo in the axis of a fleshy albumen. Cotyledons flat.

437. *OXALIS*. Caps. angular, 5-celled. Cells 2, or many-seeded. Seeds with an elastic arillus.—P. 181.

#### LIII. LINEÆ.

Calyx divided. Pet. 4 or 5. Stam. definite. Styles many. Stigma oblique. Caps. many-celled, many-valved. Seeds definite, pendulous. Embryo straight in the axis of an oleaginous albumen. Cotyledons leafy.

Herbs, with opposite leaves, and mostly terminal flowers.

438. *LINUM*. Cal. persistent. Cor. 5-petalled. Caps. globose, mucronate, 10-celled. Seeds ovate, compressed.—P. 181.

439. *RADIOLA*. Cal. many-cleft. Pet. 4. Stam. 4. Caps. 8-valved, 8-celled. Seeds solitary.—P. 181.

#### LIV. CARYOPHYLLÆ.

Calyx divided. Pet. and stam. definite. Styles 2-5, each with an oblique stigma. Caps. 1-celled, many-valved, many-seeded. Placenta in the axis, or parietal. Albumen farinaceous. Embryo spiral or curved.

Herbs, with opposite, connate, or verticillate leaves.

##### DIV. 1. CARYOPHYLLÆ.

*Cal. tubular, with 4-5 teeth.*

440. *SAPONARIA*. Calyx 5-toothed, without scales at the base. Pet. 5, clawed. Stam. 10. Styles 2. Caps. oblong, 1-celled.—P. 182.
441. *DIANTHUS*. Cal. 5-toothed, with imbricated opposite scales at the base. Pet. 5, clawed. Stam. 10. Styles 2. Caps. cylindrical, 1-celled.—P. 182.
442. *SILENE*. Cal. often ventricose, 5-toothed. Pet. 5, clawed, mostly crowned at the mouth, and notched or bifid. Stam. 10. Styles 3. Caps. 3-celled, 6-toothed.—P. 182.

443. **LYCHNIS.** Cal. 5-toothed. Pet. 5, clawed, crowned at the mouth, limb divided. Stam. 10. Styles 5. Caps. 1-5-celled, opening with 5 or more teeth.—P. 182.

DIV. 2. **ALSINÆ.**

*Cal. 4-5-leaved, or 5-parted to the very base.*

444. **AGROSTEMMA.** Calyx tubular, coriaceous, 5-cleft. Pet. 5, clawed, entire. Caps. 1-celled, opening with 5 teeth.—P. 182.
445. **SAGINA.** Cal. of 4 leaves. Pet. 4, (shorter than the cal.) Stam. 4. Styles 4. Caps. 1-celled, 4-valved.—P. 182.
446. **MËNCHIA.** Cal. of 4 leaves. Pet. 4, (length of cal.) Stam. 4. Styles 4. Caps. 1-celled, opening with several teeth.—P. 183.
447. **SPERGULA.** Cal. of 5 leaves. Pet. 5, entire. Stam. 5-10. Styles 5. Caps. ovate, 5-celled, 5-valved.—P. 183.
448. **CERASTIUM.** Cal. of 5 leaves. Pet. 5, cloven. Stam. 10. Styles 5. Caps. bursting at the summit, with 10 teeth.—P. 183.
449. **ARENARIA.** Cal. of 5 leaves. Pet. 5, entire. Stam. 10. Styles 3. Caps. 1-celled.—P. 183.
450. **ADENARIUM.** Cal. of 5 sepals, urceolate at the base. Cor. of 5 entire petals, they and the stam. inserted into the base of the capsule. Filam. glandular at the base. Caps. of 1 cell, 3 valves, and many seeds.—Part 1, p. 74.
451. **STELLARIA.** Cal. of 5 leaves. Pet. 5, deeply cloven. Stam. 10. Styles 3. Caps. 1-celled, opening with 6 teeth.—P. 184.
452. **POLYCARPON.** Caps. of 5 leaves. Pet. 5. Stam. 3. Styles 3. Caps. 3-valved.—P. 185.

LV. **SEMPERVIVÆ.**

Calyx inferior, monophyllous, many-cleft. Stamens equal to, and alternating with the petals, or double the number, half alternate, half opposite. Ovaries equal in

number to the petals. Disk hypogynous. Follicles many-seeded. Seeds small. Embryo in the axis of a fleshy albumen.

Herbs, with fleshy, opposite or alternate, leaves.

453. *COTYLEDON*. Cal. 5-cleft. Cor. monopetalous, tubular, 5-cleft. Stam. 10. Caps. 5, each with a scale at the base.—P. 185.
454. *SEMPERVIVUM*. Cal. 12-cleft. Pet. 12. Stam. 12. Caps. 12.—P. 185.
455. *SEDUM*. Cal. 4-7-cleft. Pet. 5. Stam. 10. Caps. 5, each with a scale at the base.—P. 185.

#### LVII. PORTULACÆ.

Calyx 2-5-cleft. Cor. 5-cleft or 5-petalled. Stam. definite or indefinite. Stigmas 2-5. Fr. a 1-celled, many-seeded pyxis. Seeds fixed to a central placenta. Embryo annular.

456. *MONTIA*. Cal. 2-leaved. Cor. monopetalous. Stam. 3. Styles 3. Caps. 3-valved, 3-seeded.—P. 185.

#### LVIII. DROSERACEÆ.

Calyx persistent, 5-cleft. Pet. 5, equal, unguiculate. Anthers adnate, in æstivation rolled up with the styles. Pollen cohering in masses of 3-5 granules each. Caps. 1-celled, half 3-5-valved, many-seeded. Seeds minute.

Herbs, with radical leaves, and flowers on scapes.

457. *DROSERA*. Stam. 5. Styles 6. Caps. 1-celled, 3-5-valved.—P. 186.

#### LVIII. CISTEÆ.

Calyx 5-parted. Pet. 5. Stam. indefinite. Ovary 1. Style and stigma 1. Caps. 1 or many-celled, many-valved, with numerous round seeds. Radicle opposite the umbilicus.

Shrubs, or under shrubs, with opposite leaves, and racemed or corymbed flowers.

458. *CISTUS*. Cal. 5-leaved, 2 of which smaller. Caps. 1-celled, 3-valved.—P. 186.



## LIX. VIOLACEÆ.

Calyx 5-cleft. Pet. 5, irregular. Stam. 5. Anthers often united. Style and stigma 1. Caps. 1-celled, 3-valved, with many seeds attached to the middle of the valves. Embryo in the axis of a fleshy albumen. Radicle opposite the hilum.

Herbs, with alternate leaves and stipules.

459. *VIOLA*. Cal. 5-cleft, the segments produced at the base. Cor. upper petal spurred at the base. Anthers connate.—P. 186.

## LX. POLYGALÆÆ.

Calyx 5-parted, 2 of the segments larger and coloured. Pet. definite, united on one side, split on the other. Stam. mostly diadelphous. Anthers opening by a pore at the top. Style 1. Caps. or drupe mostly 2-celled. Cells 1-seeded. Seeds pendulous. Embryo straight.

460. *POLYGALA*. Cal. 5-leaved, 2 wing-shaped, coloured. Caps. obcordate, compressed.—P. 187.

## LXI. CRUCIFERÆ.

Cal. 4-leaved. Pet. 4. Stam. 6, tetradynamous, alternating with the petals, 2 solitary, 4 in pairs. Style 1. Disk hypogynous, glandular. Pericarp, a silicle or siliqua. Seeds without albumen. Embryo recurved. Radicle opposite the hilum.

Herbs, with alternate leaves, and spiked, paniced, or corymbed flowers.

## DIV. 1. SILICULOSÆ.

461. *CAKILE*. Pouch of 2-single-seeded articulations; upper with an erect, sessile seed; lower with a pendulous seed, (sometimes abortive).—P. 187.
462. *CRAMBE*. Pouch with upper articulation subglobose, its seed inverted, fixed to the base of the cell by its (long, curved) fruit-stalk; lower articulation abortive, resembling a foot-stalk.—P. 187.

- 463. **CORONOPUS.** Pouch 2-lobed, without valves, wingless. Cells 1-seeded. Cotyledons incumbent, linear.—P. 187.
- 464. **THLASPI.** Cal. unequal in insertion, patent. Pouch compressed, emarginate. Valves carinate, (often winged,) many-seeded. Filam. without teeth, distinct.—P. 187.
- 465. **TEESDALIA.** Filam. with a small scale on their inside. Pouch emarginate. Valves carinate. Cells 2-seeded. P. 188.
- 466. **LEPIDIUM.** Pet. equal. Pouch with 1-seeded cells, their valves carinate.—P. 188.
- 467. **COCHLEARIA.** Cal. patent. Filam. shorter ones without teeth. Pouch sub-ovate, many-seeded. Valves turgid. Seeds not margined. Cotyledons accumbent.—P. 188.
- 468. **DRABA.** Filam. without teeth. Pouch entire, oval. Valves plane, or slightly convex. Cells many-seeded. Seeds not margined. Cotyledons accumbent.—P. 188.

**DIV. 2. SILIQUOSÆ.**

- 469. **CARDAMINE.** Pod linear, with truncate margin, and plane, nerveless valves, (often bursting elastically,) narrower than the dissepiment.—P. 188.
- 470. **ARABIS.** Cal. erect. Pod linear, crowned with the sessile stigmas. Valves veined, or nerved. Seeds in 1 row. Cotyledons accumbent.—P. 188.
- 471. **BARBARA.** Cal. erect. Filam. the shorter ones with intermediate glands. Pods 4-edged. Cotyledons accumbent.—P. 189.
- 472. **NASTURTIUM.** Cal. patent. Pod rounded, (sometimes short.) Valves concave, nerveless, not carinate. Cotyledons accumbent.—P. 189.
- 473. **SISYMBRIUM.** Cal. patent, (sometimes sub-erect.) Pod round or angular. Cotyledons incumbent, (sometimes obliquely) plane.—P. 189.
- 474. **ERYSIMUM.** Cal. closed. Stig. capitate, sometimes notched, with the lobes patent. Pod 4-sided. Seeds not margined. Cotyledons incumbent.—P. 189.
- 475. **CHEIRANTHUS.** Cal. closed. Opposite leaves saccate

at the base. Stig. on a style, 2-lobed. Lobes patent or capitate. Pod compressed, or 2-edged. Cotyledons accumbent.—P. 190.

476. *MATTHIOLA*. Cal. erect. Filam. longer ones dilated. Stigma, lobes connivent. Cotyledons incumbent.—P. 190.
477. *BRASSICA*. Cal. closed. Pod 2-valved, (with an abortive, or 1-seeded beak.) Cotyledons conduplicate.—P. 190.
478. *SINAPIS*. Cal. patent. Pod 2-valved, (sometimes of 2 articulations, of which the upper is valveless.) Seeds subglobose, in a single series. Cotyledons conduplicate.—P. 190.
479. *RAPHANUS*. Cal. closed. Pod valveless. Cotyledons conduplicate.—P. 191.

## LXII. FUMARIÆ.

Sepals 2, resembling bractæas. Pet. 4, irregular, in 2 series; the upper one saccate at the base. Stam. definite, in 2 bundles. Style simple. Stigma horned. Fr. a 1-seeded drupe, or a 2 or many-seeded capsule. Seeds attached by their middle. Radicle opposite the hilum. Herbs with climbing shoots, divided leaves, and spiked flowers.

480. *FUMARIA*. Filam. 2, membranaceous, each bearing 2 anthers.—P. 191.

## LXIII. PAPAVERACEÆ.

Sepals 2-4, deciduous. Petals 4-8. Stam. indefinite. Stigma lobed. Caps. 1-celled, many-seeded. Placenta parietal, 2 or many-parted. Seeds with a caruncle.

Milky plants, with alternate leaves.

481. *PAPAVER*. Cal. 2-leaved, caducous. Pet. 4. Stigma radiate, permanent. Caps. opening with pores under the stigma.—P. 191.
482. *CHELIDONIUM*. Cal. 2-leaved, caducous. Pet. 4. Stigma 2-lobed. Pod linear, 2-valved. Seeds crested, free.—P. 192.

483. **GLAUCIUM.** Cal. 2-leaved, caducous. Pet. 4. Stigma 2-lobed. Pod linear, 2-valved. Seeds dotted, imbedded in a spongy mass that fills the pod.—P. 192.

#### LXIV. NYMPHÆACEÆ.

Sepals 4-6, not articulated with the receptacle. Petals and stamens disposed in many rows, alternating with the sepals. Anthers turned inward, adnate. Berry many-celled, many-seeded. Embryo large, in the base of a fleshy albumen.

Water plants, the leaves with long stalks and radiating nerves.

484. **NYMPHÆA.** Cal. 4-5 leaved, smaller than the cor. Pet. numerous, inserted on the ovary beneath the stamens.—P. 192.
485. **NUPHAR.** Cal. 5-6 leaved. Pet. numerous, inserted with the stamens on the receptacle.—P. 192.

#### LXV. BERBERIDEÆ.

Sepals in 2 rows, deciduous. Petals opposite the sepals. Stamens equal in number to, and opposite the petals. Anthers opening with a valve from the base upwards. Ovary 1. Seeds attached laterally. Embryo straight in the axis of a fleshy albumen.

486. **BERBERIS.** Sepals 6. Petals 6. Stam. 6. Berry 2-seeded.—P. 192.

#### LXVI. RANUNCULACEÆ.

Cal. with many leaves or many-parted. Stam. indefinite. Anthers adnate. Pericarps many, 1-celled. Seeds attached to their inner side, with a corneous albumen. Embryo straight.

487. **CLERMATIS.** Sepals 4-6. Petals 0. Pericarps terminated by a long feathered awn.—P. 192.
488. **THALICTRUM.** Sepals 4-6. Petals 0. Pericarps without awns.—P. 193.
489. **ANEMONE.** Involucre remote from the flower, of 3

divided leaves. Sepals 5-9, petaloid. Petals 0.—P. 193.

490. **RANUNCULUS.** Sepals 5, (in *R. ficaria* 3.) Petals 5-10, with a nectariferous pore at the base. Pericarps shortly mucronate.—P. 193.
491. **MYOSURUS.** Sepals 5, prolonged at the base. Petals 5, their claws tubular, filiform. Stam. 5-12. Pericarps collected on a long receptacle.—P. 194.
492. **HELLEBORUS.** Sepals 5, subcoriaceous, persistent. Petals 8-10, very small, tubular, nectariferous. Caps. compressed, sub-erect.—P. 194.
493. **CALTHA.** Sepals 5, petaloid. Petals 0. Pericarps compressed, spreading.—P. 194.
494. **AQUILEGIA.** Sepals 5, deciduous, coloured. Petals 5, terminating below in a spurred nectary.—P. 194.

## OF

## UNDETERMINED SITUATION.

495. **CERATOPHYLLUM.** Monoecious. Cal. many-parted. Cor. 0. Stam. double the number of the calyx segments. Style 0. Stigma oblique. Nut bony, 1-celled, indehiscent. Seed erect. Albumen 0. Cotyledons 4, 2 of them larger than the others. Plumule of many leaves.—P. 195.





# FLORA DEVONIENSIS.

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## I. ACOTYLEDONS.

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### I. EPIPHYTÆ.

#### 1. CYLINDROSPORIUM.

1. *C. concentricum*. Grev. Crypt. Fl. t. 27.

HAB. On Cabbage leaves. Gardens at Ilington. Meavy Parsonage Garden, Rev. J. S. Tozer.

### II. BYSSOIDEÆ.

#### 1. PENICILLIUM.

1. *P. glaucum*, densely tufted, spreading; heads of spores at length glaucous. Grev. Crypt. Fl. t. 58. f. 1.

HAB. On Fungi, fruit and various putrefying substances, common.

#### 2. ASPERGILLUS.

1. *A. penicillatus*, gregarious; stipes jointed, bearing a cluster of moniliform sporidia. Grev. Crypt. Fl. t. 32.

HAB. Damp plants in the herbarium.

### III. GASTROMYCI.

#### 1. TREMELLA.

1. *T. mesenterica*, sessile, clustered, orange-yellow, vari-ously lobed and plaited. Pers. Syn. p. 622. E. B. t. 709.

HAB. On dead branches of trees, common. Autumn—Spring.

1-3 inches broad, bright fine colour; very gelatinous; becomes darker and horny in drying.

2. *T. albida*, sessile, whitish, obtusely lobed and plaited. E. B. t. 2117.

## 2 ACOTYLEDONS. GASTROMYCI. PUCCINIA.

HAB. On dead branches, occasionally. On the hill beyond Dunsford, on the Exeter road from Moreton. Autumn.

$\frac{1}{4}$ -1 in. broad, tender, semipellucid, clustered.

### 2. PUCCINIA.

1. *P. rosæ*, on the under surface of the leaf; sporidia mucronate, 5-7-celled, with a white filiform stipes, incrassate at the base, and furnished with a yellow gland. Grev. Crypt. Fl. t. 15.

HAB. On the leaves of various *Rosæ*, common. Autumn.

In scattered black tufts, of various sizes.

2. *P. buri*, scattered, reddish-brown, very convex, surrounded by the ruptured epidermis; sporidia oblong, 2-celled, yellow, with a long filiform stem. Grev. Crypt. Fl. t. 17. Sow. Fung. t. 439.

HAB. On both surfaces of the leaves of the common Box. Near Plymouth, Rev. J. S. Tozer.

Of a rich purple, or reddish-brown, bursting through and always surrounded by, a portion of the epidermis.

3. *P. potentillæ*, on the lower surface of the leaf, scattered, black; sporidia cylindrical, 3-4 celled, obtuse; pedicels white, filiform. Grev. Crypt. Fl. t. 57.

HAB. On the under surface of different species of *Potentilla*. Rora Wood, Ilington. Orchard hedge at Meavy Parsonage, Rev. J. S. Tozer.

Black, tufted, scattered, small.

4. *P. graminis*, tufts dense, oblong, often confluent, and forming long, parallel lines, yellowish-brown, changing to black; sporidia elongated, the upper cell shortest and of greater diameter; stipes filiform. Grev. Fl. Edin. p. 433. Hook. Fl. Scot. part ii. p. 17. Sow. Fung. t. 140. (*Uredo frumenti*.)

HAB. On the culms and leaves of corn and various grasses, common.

This is often very injurious to corn, and is known to our agriculturists by the name of *Rust*: for a scientific history of the plant, an essay of Sir J. Banks, in *Annals of Botany*, vol. ii. p. 51, and a paper by Kirby, in *Linn. Trans.* vol. v. p. 102, may be referred to.

5. *P. globosa*, epiphyllous, minute, scattered, black; sporidia globose, on a slender filiform stipes. Grev. Fl. Edin. p. 434. and Crypt. Fl. t. 29. (*P. fabæ*.)

HAB. Gardens at Ilington. Parsonage Gardens at Meavy, Rev. J. S. Tozer. On the surface of the leaves of the common Bean.

Of a darker colour, and much less frequent than *Uredo fabæ*.

6. *P. Heraclei*, hypophyllous, irregularly roundish, sur-

rounded by the ferruginous epidermis; sporidia crowded, obtuse, divided in the middle, on a short stipes. Grev. Crypt. Fl. t. 42.

HAB. On the under surface of the leaves of the Cow Parsnip. Sentry Meadow, Ilington.

### 3. UREDO.

#### τ. Dark-brown, or reddish, (*Nigredo*.)

1. *U. geranii*, hypophyllous, dark-brown, round, surrounded by the ruptured epidermis; sporidia globose, sometimes with a very short stipes, and at length diffused. Grev. Crypt. Fl. t. 8.

HAB. On under surface of various species of *Geranium*. Near Ilington. Summer.

2. *U. cichoracearum*, on both sides the leaf, dark, fuscous, round, minute, scattered; sporidia globular, rarely on a minute pedicel. Grev. Crypt. Fl. p. 435.

HAB. On the leaves of very many of the *Compositæ*. Common in Summer.

3. *U. fabæ*, round, scattered, depressed, light-brown, surrounded with the remains of the epidermis; sporidia roundish. Grev. Crypt. Fl. t. 95.

HAB. On the leaves and petioles of the common Bean, gardens at Ilington; on the leaves of *Vicia sepium*, hedges at Rora Farm, in the same parish.

4. *U. oblongata*, on both sides the leaf, minute, scattered, oblong, brown, surrounded by the broken epidermis; sporules roundish. Grev. Crypt. Fl. t. 12.

HAB. On the leaves of *Iris fetidissima*, between Lord Morley's flying bridge and Plymstock, Rev. J. S. Tozer.

#### ττ. Yellow, or orange, (*Rubigo*.)

5. *U. tussilaginis*, hypophyllous, orange yellow, prominent, crowded, mostly forming concentric spots. Grev. Fl. Edin. p. 437.

HAB. On the under surface of the leaves of *Tussilago farfara*, common.

6. *U. effusa*, hypophyllous, and on the nerves and petioles, bright reddish-orange, broad, pulverulent; sporules numerous, subglobose. Grev. Crypt. Fl. t. 19. Sow. Fung. t. 398. (*U. spirææ*.)

HAB. On Rose bushes in gardens in the neighbourhood of Plymouth, Rev. J. S. Tozer.

A conspicuous plant from its large size and vivid colour.

7. *U. lini*, scattered, ovate, convex, orange-yellow; sporidia ovate, numerous. Grev. Crypt. Fl. t. 31.

HAB. On both surfaces of the leaves of *Linum catharticum*. Frequent in Summer.

τττ. Dust white. (*Albugo*.)

8. *U. candida*, polymorphous, white; sporidia abundant, and transparent under the microscope. Grev. Fl. Edin. p. 442. Sow. Fung. t. 340. (*Uredo thlaspi*.)

HAB. On different cruciform plants; on *Thaspi bursa pastoris*, Ilslington.

ττττ. Dust brownish, or blueish-black; parasitic within the fructification.

6. *U. segetum*, dust naked, profuse, black; within the fruit and glumes of corn, and various grasses. Pers. Syn. p. 224.

HAB. Within the glumes of Wheat, Oats, Barley, &c. frequent. Summer.

This species does considerable injury to corn crops, by destroying the grain and converting it into a black dust; but differs from the next in its appearing at an earlier period, in being destitute of scent, and in not communicating a stain to the whole mass in threshing.

10. *U. caries*, brownish-black, fetid, always confined within the grain; sporules minute, spherical. Fl. Edin. p. 443.

HAB. Within grains of Wheat. Summer—Autumn.

The grains filled with this destructive pest, may be known by their being of a smaller rounder form than the others; when bruised, they have an unctuous feel and fetid smell; the sporules are said to be included in a true peridium.

#### 4. *ÆCIDIDIUM*.

τ. Scattered.

1. *Æ. pini*, large, oblong, or conical, pale-orange, bursting irregularly at the apex; sporidia bright-orange, very abundant, dust-like. Grev. Fl. Edin. t. 7. Pers. Syn. p. 213.

HAB. On Firs in the parsonage lawn, and in Hayes Wood, Meavy, not uncommon, Rev. J. S. Tozer.

2. *Æ. berberidis*, peridia short or elongate, cylindrical, densely crowded, fine orange; sporidia yellow, and profuse. Grev. Crypt. Fl. t. 97. Pers. Syn. p. 246. Sow. Fung. t. 397. f. 5.

HAB. On the leaves, fruit-stalks and calyx of *Berberis vulgaris*, hedge in the village, Ilslington. Summer.

This has been supposed to be the cause of the blight of wheat when growing contiguous to Barberry bushes; but the two species are perfectly distinct.

3. *Æ. grossulariæ*, hypophyllous, on a thickened portion of the leaf, which on the upper surface is red, with a yellow bor-



der ; peridia densely crowded, splitting into yellowish-white revolute teeth ; sporidia pale. Grev. Crypt. Fl. t. 62.

HAB. Common in gardens on Gooseberry bushes.

τ τ. Growing in circles.

4. *Æ. tussilaginis*, hypophyllous, marked on the upper surface of the leaf by a yellow or purplish spot ; peridia partly immersed, short, splitting into white revolute teeth ; sporidia a fine pink orange. Pers. Syn. p. 209. Grev. Fl. Edin. p. 447.

HAB. On the under surface of the leaves of *T. farfara*. The latter part of Summer, common.

### 5. ERINEUM.

1. *E. acerinum*, on the under surface of the leaf, depressed, distinct or confluent, pale, changing to reddish-brown ; peridia club-shaped. Grev. in Edin. Phil. Journal, vol. vi. p. 73. t. 2.

HAB. On the under surface of the leaves of *Acer pseudo-platanus*, not uncommon, near Meavy, Rev. J. S. Tozer. Ilington. Common in Autumn.

2. *E. pyrinum*, hypophyllous, scattered, or partially confluent, rich reddish-brown ; peridia compressed, linear, lax, the apex club-shaped, and often truncated. Grev. Crypt. Fl. t. 22.

HAB. Orchard at Meavy parsonage, Rev. J. S. Tozer.

3. *E. juglandis*, hypophyllous, silky or tomentose, pale, quadrangular ; peridia erect, cylindrical, long, and attenuated to a point. Grev. Fl. Edin. p. 450. Grev. in Edin. Phil. Journ. vol. vi. p. 75. t. 2. (*E. subulata*.)

HAB. On the lower surface of the leaves of the common Walnut, Warleigh House and Tothill House, both in the neighbourhood of Plymouth, rather unfrequent, Rev. J. S. Tozer.

4. *E. clandestinum*, pinkish-white, changing to subferruginous, confluent on the margin of the leaf, which is curled over it ; peridia short, ovate, or club-shaped. Edin. Phil. Journ. vol. vi. p. 76. t. 2. f. 8.

HAB. On the under surface of the leaves of *Crataegus oxyanthus*. In Summer, common.

5. *E. griseum*, hypophyllous, very minute, pale obscure purple, widely effused ; peridia simple, obtusely club-shaped. Grev. Fl. Edin. 449. Grev. in Edin. Phil. Journ. vol. vi. p. 81. t. 3. f. 17.

HAB. On the under surface of Oak-leaves, Parsons Lane, Meavy, rare, Rev. J. S. Tozer.

## 6 ACOTYLEDONS. GASTROMYCI. SCLERODERMA.

### 6. LYCOGALA.

1. *L. miniata*, gregarious, globose, red, changing to brown; sporules at first scarlet and pulpy, changing to pulverulent and purple-grey. Grev. Crypt. Fl. t. 38. Pers. Syn. p. 158. Sow. Fung. t. 32. (*Lycoperdon epidendrum*.)

HAB. Frequent on rotten wood. Palmers Wood, Meavy, Rev. J. S. Tozer. Summer.

2. *L. minuta*, minute, white, roundish, depressed, fragile; sporules black. Grev. Crypt. Fl. t. 40.

HAB. On dead leaves in the lower part of Penn Wood, Ilington, in Autumn.

Gregarious, irregular in form, rarely confluent.

### 7. TRICHIA.

1. *Tr. ovata*, clustered, obovate, brownish-yellow, bursting at the apex. Pers. Syn. p. 180. Sow. Fung. t. 85. (*Tr. turbinata*.)

HAB. On decayed wood, dead leaves, &c. in Winter. In Penn Wood, Ilington.

### 8. ARSCYRIA.

1. *A. punicea*, gregarious, stipitate, red; sporules abundant, crimson. Pers. Syn. 185. Sow. Fung. t. 49. (*Trichia denudata*.)

HAB. On a decayed stump in Halford Lane, Ilington. August. And also in similar situations in Rora and Penn Woods.

### 9. LYCOPERDON.

1. *L. bovista*, large, obconical, soft, whitish, plicate beneath, scales broad. Pers. Syn. p. 141. Sow. Fung. 332, upper fig. (*Ly. proteus*.)

HAB. Pastures, &c. frequent. Autumn.

3 or 4 inches broad; after the sporules have escaped the lower part remains peziziform and permanent.

2. *L. pratense*, white, soft, hemispherical, sub-sessile, smoothish, with a few scattered warts. Pers. Syn. p. 142.

HAB. Pastures, &c. frequent after rainy weather. Autumn.

Half sunk in the ground, an inch or two broad, white when young, changing at length to reddish-brown.

We should be inclined to consider both these varieties of the same species.

### 10. SCLERODERMA.

1. *S. verrucosum*, large, gregarious, yellowish-brown; stipes

sub-elongated, incrassate below, lacunose; scales small, numerous. Grev. Crypt. Fl. t. 48. Pers. Syn. p. 154. Sow. Fung. t. 311. (*Lycoperdon defossum*.)

HAB. In the Court Wood and in Rora Wood, Ilington, frequent. Autumn.

A large species, with a thick hard peridium and small dark-coloured warts, bursting irregularly at the apex, and the segments rolled back; sporules purplish, or brownish, intermixed with filaments.

### 11. BOVISTA.

1. *B. nigrescens*, large, white, changing to brownish-black, plicate beneath. Pers. Syn. p. 136. Sow. Fung. t. 331. (*Lycoperdon bovista*.)

HAB. In dry upland pastures, &c. High Tor Down, Ilington. Autumn.

2. *B. gigantea*, very large, subsessile, yellowish-white, with scattered, nearly obsolete scales. Grev. Fl. Edin. p. 458. Pers. Syn. p. 140. (*Lycoperdon giganteum*.)

HAB. Cliff fields at Lymptone, and orchards in the same parish, Miss Filmore.

This species grows not unfrequently to a size of 3 or 4 feet in circumference, and it has been stated that they have been known to attain the great size of 9 feet.

### 12. CYATHUS.

1. *C. striatus*, obconical, brown and hairy externally, the interior surface pale-grey and striate. Pers. Syn. 237. Sow. Fung. t. 29. (*Nidularia striata*.)

HAB. On the decayed stump of an Oak in Court Wood, Ilington, in November. In Hounter Wood, Manaton, September. In Bears Court Wood, south Devon, on a decayed Oak, in October. Col. Montague.

2. *C. crucibulum*, subcylindrical or campanulate, woody, ochrey-yellow; externally, rather downy at the base, inner surface smooth and even. Grev. Crypt. Fl. t. 34. Pers. Syn. 238. Sow. Fung. t. 30. (*Nidularia lævis*.) Huds. Fl. Ang. vol. ii. p. 634. (*Peziza lævis*.)

HAB. Attached to dead wood, &c. In woods and old hedges, frequent. Rora, Court, and Penn Woods, Ilington. Yarnor Wood, Bovey Tracey. Borringdon Woods, &c. Autumn.

3. *C. olla*, campanulate, externally brownish and rather downy, internally lead-colour and smooth. Pers. Syn. 237. Sow. Fung. t. 28. (*Nidularia campanulata*.)

HAB. In Court Wood, Ilington, near the brook on the bare ground. October. In the fruit-house, Kingsbridge, Col. Montague.

## 13. SCLEROTIUM.

1. *S. durum*, oval or elongated, deep black, corneous, at length substrate or rugose, white within. Grev. Crypt. Fl. t. 1. Sow. Fung. t. 314. (*Sphæria solida*.)

HAB. On dead Potato-stalks and some of the larger umbelliferous plants ; We have observed this common in various places in the Winter.

## 14. TUBERCULARIA.

1. *T. vulgaris*, gregarious, deep-red, rugose, on a short thick stipes. Pers. Syn. p. 112. Sow. Fung. t. 294. (*Clavaria coccinea*.)

HAB. On rotten wood, decayed sticks, &c. common.

## IV. FUNGI.

## DIV. I. AGARICOIDES.

## 1. AMANITA.

1. *A. muscaria*, stipes bulbous ; volva scaly, disappearing ; margin of the pileus striated, orange-red, mostly warty ; lamellæ white. Grev. Crypt. Fl. t. 54. Sow. Fung. t. 286. (*Agaricus muscarius*.)

HAB. Rora and Penn Woods, Ilington.

The handsomest of this tribe ; the pileus from 3-6 inches broad, convex at first, at length nearly plane, varying in colour from crimson to orange, whitish or brown ; the warts are white or yellowish, and scattered over the surface.

## 2. AGARICUS.

1. Colour of the gills permanent, mostly white ; sporules white.

τ. With a veil.

1. *Ag. procerus*, large ; stipes long, hollow, rather scaly ; collar free ; pileus umbonate, scaly, whitish brown ; gills white, distant. Sow. Fung. t. 190.

HAB. In woods, frequent. In the Buckland Woods ; Rora and Penn Woods, Ilington, &c.

Pileus from 3-6 inches broad, spreading, and broadly umbonate, with brown scurfy scales, formed from the epidermis.

2. *Ag. melleus*, mostly clustered ; stipes dingy-white, incrassated at the base ; collar, large, white, permanent ; pileus umbonate, dingy-yellow, scaly ; scales formed of black, rigid,

fascicled hairs; lamellæ slightly decurrent. Grev. Fl. Edin. p. 371. Sow. Fung. t. 101. (*A. stipites*.)

HAB. Stumps of trees in Hounter Wood, Manaton, and in Bagtor and Penn Woods, Ilington. Autumn.

3. *Ag. eburneus*, whole plant white; stipes scurfy, solid, becoming hollow; pileus smooth, umbonate; lamellæ broad, distant, very decurrent. With. Bot. Arr. vol. iv. p. 154. Sow. Fung. t. 32. (*Ag. virgineus*,) and t. 121. (*Ag. cossus*.)

HAB. In pastures, occasionally, in various parts of Ilington. Autumn.

Pileus 1-2 inches broad; slimy when young, and in wet weather, shining when dry; when old, recurved.

ττ. Without a veil.

4. *Ag. nitidus*, stipes whitish, solid, spongy; pileus fleshy, convex, with a thin sulcate margin; lamellæ rather distant, equal, yellow. Fl. Edin. p. 372.

HAB. Frequent in the Buckland, Hounter, and Bagtor Woods. Autumn.

Pileus 1-2 inches broad; the colour various, but mostly yellow, or with a purplish tinge; substance white and spongy; the lamellæ uniform, and connected by veins.

5. *Ag. emeticus*, stipes firm, solid, whitish; pileus rather depressed in the centre, the colour various; the margin at length sulcate; lamellæ broad, a few smaller ones intermixed, white. Pers. Syn. Fung. p. 439. Sow. Fung. t. 202. (*Ag. integer*.)

HAB. In woods and shady situations, frequent. July—November.

Pileus 2-4 inches broad, smooth, at first hemispherical, becoming nearly flat, the colour is very various, purple, light-red, yellow, or whitish; the gills are rather distant, stout, and rigid, and always white. It has an acrid taste.

6. *Ag. adustus*, stipes whitish, short, solid, very stout; pileus brownish-yellow, changing to black and cracking; lamellæ distant, thick, unequal, dingy-white. Sow. Fung. t. 36. (*Ag. elephantinus*.)

HAB. In woods in various parts of the country, frequent. Autumn.

Pileus 3-7 inches broad, pale when young, having a burnt appearance when old; flesh white, becoming darker when broken and exposed to the air.

7. *Ag. torminosus*, stipes yellowish-white, smooth; pileus whitish, with a yellow, brown, or grey tinge, convex, depressed in the centre, margin woolly; lamellæ numerous, with a pink tinge. Sow. t. 103. With. Bot. Arr. vol. iv. p. 172. (*Ag. piperatus*.)



HAB. Woods and pastures, frequent. Summer—Autumn.

A white, milky, and very acrid juice may be expressed from it; the plant is very poisonous.

8. *Ag. lactifluus*, stipes buff-colour, firm, smooth, at length hollow; pileus reddish, glabrous; lamellæ reddish-brown, abounding in white milky juice. Sow. Fung. t. 204.

HAB. Rora Wood, Ilington; Hounter Wood, Manaton. Summer—Autumn.

The pileus 1-3 inches broad, convex at first, becoming depressed, and at length almost funnel-shaped, often obscurely zoned. The juice is mild, and its colour remains unaltered.

9. *Ag. piperatus*, stipes whitish, solid, eccentric; pileus whitish, glabrous, depressed, at length funnel-shaped; lamellæ narrow, crowded; juice white and acrid. Pers. Syn. Fung. p. 429. With. Bot. Arr. vol. iv. p. 158. (*Ag. Listeri*.)

HAB. In Penn Wood, Ilington. In Autumn.

The usual size of the pileus is 4 or 5 inches. Several varieties are mentioned by Withering, who first distinguished it from *A. piperatus* of Linnæus.

10. *Ag. gilvus*, stipes solid, somewhat thickened towards the base, yellowish-white; pileus convex, umbonate, at length infundibuliform, smooth, firm, yellowish-white; lamellæ decurrent, numerous, whitish. Grev. Crypt. Fl. t. 41. Sow. Fung. t. 61. (*Ag. pileolarius*.)

HAB. Bagtor Woods, Ilington. Parson's Wood, Meavy. Rev. J. S. Tozer. Autumn.

11. *Ag. odoratus*, plant fragrant, green; stem solid, bent; pileus smooth, somewhat plane; lamellæ numerous, pale, scarcely decurrent. Grev. Crypt. Fl. t. 28. Sow. Fung. t. 42.

HAB. In Rora and Penn Woods, Ilington. Autumn.

12. *Ag. pratensis*, stipes short, solid, tapering at the base; pileus compact, convex, smooth, becoming partially expanded, buff-colour, with a reddish tinge; lamellæ thick, decurrent, reddish-yellow. Pers. Syn. p. 304. Sow. Fung. t. 141. (*Ag. miniatus*.)

HAB. Frequent in pastures, &c. Autumn.

Stipes of rather paler colour than the pileus, usually rather bent; lamellæ very distant, arched.

13. *Ag. conicus*, stipes sub-striate, splitting; pileus conical, glutinous, mostly crimson or yellow; lamellæ crowded, ventricose, attenuated, free, yellow. Pers. Syn. p. 335. Sow. Fung. t. 381. (*Ag. aurantius*.)

HAB. Pastures and open downs, common. Summer and Autumn.

14. *Ag. farinaceus*, stipes long, hollow, bent, thickened above, pale-brown or pink; pileus farinaceous, with minute scales, flesh-colour; lamellæ distant, arched, farinaceous, pink. Sow. Fung. t. 208.

HAB. Frequent in damp woods. Ilington. Manaton. Autumn.

15. *Ag. radicans*, stipes tall, rigid, tapering upward, brownish, with a long fusiform root; pileus rugose, viscous, tough, yellowish or greenish-brown; lamellæ distant, white. Sow. Fung. t. 48.

HAB. In Buckland Woods. Autumn.

Remarkable for its long, tapering root, which penetrates the ground often for a foot or more in depth.

16. *Ag. velutipes*, clustered; stipes incurved, dark-brown and velvety below, paler above; pileus nearly plane, brown-orange, glutinous; lamellæ ventricose, yellowish. Pers. Syn. 314. Sow. Fung. t. 263.

HAB. In woods, borders of fields, by decayed stumps, &c. Autumn—Spring.

17. *Ag. dryophyllus*, stipes hollow, gradually tapering upwards, shining, pinkish or yellowish-white, darker at the summit; pileus thin, plane, smooth, whitish, yellowish, or livid; lamellæ free, white, or pinkish. Sow. t. 127.

HAB. In woods and pastures, frequent. Summer.

Variable in size, of a thin, tender, watery substance.

18. *Ag. orcadæ*, stipes solid, firm, cylindrical, but thickening close under the pileus, brownish-white; pileus convex, irregular, reddish or buff-colour; lamellæ distant, free, whitish. With. Bot. Arr. vol. iv. p. 221. Sow. Fung. t. 247. (*Ag. pratensis*.)

HAB. Meadows and pastures, frequent. Summer and Autumn.

This species often forms fairy rings, and is recommended for its flavour as adapted to culinary purposes.

19. *Ag. tuberosus*, gregarious; stipes springing from a tuberous root, slender, smooth, flexuose, whitish or reddish; pileus plane or subumbonate, whitish; lamellæ adnate, numerous, white, narrow, irregular. Grev. Crypt. Fl. t. 23.

HAB. In the lower part of Penn Wood, Ilington, amongst moss and dead leaves. In October.

The tuberous root forms the striking and singular characteristic of this species.

20. *Ag. rotula*, stipes filiform, hollow, striate, white above, black below; pileus thin, more or less convex, plicate, umbi-

licate, white; lamellæ attached to a collar, surrounding but not joining the stipes, white. Sow. Fung. t. 95. With. Bot. Arr. vol. iv. p. 148. (*Merulius collariatus*.)

HAB. On dead sticks, leaves, &c. frequent through the year.

Stipes 1-3 inches long, not thicker than a pin, sometimes branched and samentose; pileus 1-8th to 3-8ths of an inch broad.

21. *Ag. androsaceus*, stipes filiform, hollow, furrowed, black below, white above; pileus convex, plicate, white or brownish; lamellæ adnate, white. Sow. Fung. t. 93. With. vol. iv. p. 148. (*Merulius*.)

HAB. Dead leaves, sticks, &c. in woods, common; through the year.

It often produces slender barren stems, with entangled capillary branches.

22. *Ag. squamula*, stipes hollow, velvety, reddish-brown below; pileus nearly plane, rugose; lamellæ few, adnate, vein-like. Sow. Fung. t. 93. With. vol. iv. p. 149. (*Merulius*.)

HAB. Rora Wood, Ilasington. On dead leaves. Autumn.

Gregarious stipes  $\frac{1}{4}$  inch to an inch high; pileus white, 3-4 lines in breadth.

23. *Ag. galericulatus*, stipes stringy and rooting at the base, the rest glabrous; pileus brownish, subrugose, conical, or campanulate; lamellæ rather distant, whitish, adnate, with a decurrent process. Sow. Fung. t. 165.

HAB. Common amongst moss, old stumps of trees, &c. in Autumn.

Plant scentless, variable, gregarious, or solitary.

24. *Ag. fibula*, stipes yellow, slender; pileus convex, glabrous, orange; lamellæ whitish or yellow, broad, distant, decurrent. Sow. Fung. t. 45. With. vol. iv. p. 237. (*Ag. parvus*.)

HAB. In damp pastures amongst short mossy grass, &c. frequent. Autumn.

Stipes  $\frac{1}{4}$  to 1 inch long; pileus 3 or 4 lines broad, with a depression in the centre.

25. *Ag. sordidus*, stipes cylindrical, brown; pileus smoky-brown, darker than the stipes, funnel-shaped, smooth; lamellæ distant, greyish. Sow. Fung. t. 363.

HAB. Woods, &c. amongst grass, frequent. Rora and Bagtor Woods, Ilasington. In Autumn.

2. With a cobweb-like veil; lamellæ changing colour; sporules ochraceous.

26. *Ag. violaceus*, stipes solid, purple, cylindrical, bulbous at the base; pileus purple or brownish, convex; lamellæ distant, violet. Sow. Fung. t. 209.

HAB. Frequent in woods. In the lower part of Penn Wood, Ilasington. Kingsbridge, in a heap of decayed leaves, Montague. Autumn.

Stipes 3-4 inches high; veil like a cobweb; pileus 3-5 inches broad, varies considerably in size and shades of colour.

27. *Ag. cinnamomeus*, stipes yellow, cylindrical, mostly crooked; pileus convex or obtusely conical, umbonate, fleshy, cinnamon colour; lamellæ numerous, adnate, deep-tawny. Sow. Fung. t. 206.

HAB. Not unfrequent in woods. In Penn and Bagtor Woods, Ilington. Hounter Wood, Manaton. Latter part of Summer.

3. Veil not cobweb-like; lamellæ changing colour; sporules ferruginous.

28. *Ag. floccus*, tufted; stipes squarrose, with scales colour of the pileus; pileus fleshy, brownish or reddish yellow; scaly with stiff fascicled filaments; scales revolute; lamellæ numerous, irregular, pale-yellow or greenish. Grev. Crypt. Fl. t. 2. Sow. Fung. t. 284.

HAB. On decayed stumps of trees, occasionally; lower part of Bagtor Wood, Ilington. In Autumn.

Stipes 3-7 inches long; pileus 3-5 inches broad; grows in numerous tufts.

29. *Ag. tener*, stipes long and very slender, smooth, splitting, brown; pileus obtusely conical, smooth, deep buff-colour; lamellæ adnate, deep nut-brown. Sow. Fung. t. 33.

HAB. Amongst short mossy grass, &c. Milburn Down, High Tor Down. Summer and Autumn.

Stem 3 or 4 inches high, scarcely a line thick; pileus about half an inch from the edge to the apex.

30. *Ag. hypnorum*, stipes filiform, hollow; pileus campanulate, reddish buff-colour, striate when moist; lamellæ reddish-brown, adnate, broad, distant. Grev. Fl. Edin. p. 389. Sow. Fung. t. 282. (*Ag. acicula*.)

HAB. In wet situations, amongst moss. In the boggy ground under Penn Wood, Ilington. Hightor Down. Dartmoor, near the prison. Autumn.

A very small plant, stipes about an inch high, size of a pin; pileus not exceeding a quarter of an inch in diameter.

4. Veil not cobweb-like; lamellæ changing colour, more or less deliquescent; sporules brownish-purple.

31. *Ag. campestris*, stipes solid, white, surrounded with a white veil; pileus white, becoming brownish and scurfy; lamellæ pink, changing to dark liver-colour, numerous, free. Sow. Fung. t. 305.

HAB. Old pastures, &c. common, chiefly in Autumn; the well-known edible *Mushroom* of the markets.

32. *Ag. Georgii*, stipes thick, whitish or yellowish, with a persistent collar; pileus fleshy, convex, white or yellowish, smooth; lamellæ numerous, broad, free, white, changing to deep reddish-yellow. Sow. t. 304. Withering, vol. iv. p. 226.

HAB. In woods and pastures in various places; on Downs along the coast, frequent.

A gregarious plant; the pileus from 4 to 12 inches broad, or even more; it is the largest of the British Agarics. Withering notes one as having weighed 14 lbs.

33. *Ag. semi-globatus*, stipes hollow, crooked, glabrous, yellowish; pileus hemispherical, smooth, glutinous, brownish-yellow; lamellæ adnate, grey mottled, horizontally placed. Sow. Fung. t. 248, and t. 407 and 408. (*Ag. virosus*.)

HAB. Pastures, meadows, &c. common. Summer and Autumn.

3-6 inches high,  $\frac{1}{2}$ ,  $1\frac{1}{2}$  inch in diameter.

34. *Ag. æruginosus*, stipes hollow, squamose, blueish or greenish; pileus fleshy, yellow, covered with a blueish-green slime; lamellæ adnate, lilac. Sow. Fung. t. 264.

HAB. On the ground, decayed stumps, &c. frequent; near Kingsbridge, Montague.

2 or 3 inches high, 1-4 broad, convex, becoming nearly plane, umbonate, very slimy.

35. *Ag. lachrymabundus*, stipes hollow, fibrillose, thickest at the base, dirty-white; pileus fleshy, surface woolly, dirty-brown; lamellæ dull brownish-red, numerous, adnate. Sow. Fung. t. 41.

HAB. Woods, pastures, stumps of old trees, &c. frequent. Autumn.

Tufted; stem 2-4 inches long; pileus convex, becoming nearly plane, often irregular; 2-4 inches broad; lamellæ exuding a thin grey fluid from their margins.

36. *Ag. fascicularis*, stipes slender, hollow, yellowish, bent; pileus umbonate, light yellow or orange, smooth; lamellæ numerous, pale yellow, becoming greenish and mottled. Sow. Fung. t. 285.

HAB. Old rotten stumps, &c. frequent. May—December.

Stipes 2-9 inches or more in length; veil very fugacious; pileus 1-2 inches broad, with a thin margin; taste very bitter.

37. *Ag. semi-ovatus*, stipes long, white, hollow, shining; pileus obtusely campanulate, light brown, slimy; lamellæ numerous, adnate, greyish-black. Sow. Fung. t. 131.

HAB. Dughills, and pastures freshly manured, common.

38. *Ag. striatus*, clustered; stipes smooth, incurved, hollow, yellowish or greyish-white; pileus campanulate, plicate,



striate, pale buff or brownish, changing to grey; lamellæ distant, sub-adnate, whitish, changing to grey. Sow. Fung. t. 168.

HAB. Hollow trees, rotten stumps, &c. common. Spring—Autumn.

1-3 inches high,  $\frac{1}{4}$ - $\frac{1}{2}$  inch from edge to apex of pileus, which becomes grey, flaccid, and deliquescent in decay.

5. Veil general; lamellæ free, dissolving along with the pileus; sporules black.

39. *Ag. cylindricus*, stipes hollow, cylindrical, white, with a loose ring; pileus white, scaly, cylindrical at first, becoming campanulate; lamellæ white, changing to brownish-purple and black, crowded. Sow. Fung. t. 189.

HAB. In gardens, rich pastures, near dung, &c. common. Autumn.

Pileus from 3-6 inches from margin to apex.

40. *Ag. fimetarius*, in tufts; stipes white, hollow, cylindrical; pileus greyish, smooth, scaly at the tip, irregularly plicate; lamellæ ventricose, silvery grey, changing to black. Sow. Fung. t. 188.

HAB. Roots of trees, dunghills, &c. Autumn.

41. *Ag. congregatus*, tufted; stipes white, fragile, cylindrical; pileus membranaceous, furrowed, yellow or brownish; lamellæ numerous, palish-grey, changing to reddish and black. Sow. Fung. t. 261.

The pileus ovate, campanulate, surface sprinkled with shining particles, curls up with age, and dissolves into a dark fluid.

42. *Ag. cinereus*, stipes long, hollow, tapering above, white, fragile; pileus membranaceous, furrowed, dark-grey, apex smooth; lamellæ of the same colour, linear. Withering, vol. iv. p. 294.

HAB. Common in rich soil, dung, &c. Summer.

Stipes 4 to 9 inches high; pileus 1 or 2 broad; whole very rapid in growth, and soon dissolving.

43. *Ag. plicatilis*, stipes smooth, hollow, very slender and fragile; pileus conical, becoming plane, umbilicate, plicate, subpellucid, greyish; lamellæ grey, rather distant. Sow. Fung. t. 364.

HAB. Dung, garden-mould, &c. common in Summer.

An extremely delicate and fugacious plant.

44. *Ag. stercorearius*, stipes white, glabrous, hollow, brittle; pileus very thin, campanulate, becoming expanded, splitting,

and revolute, grey or brownish; lamellæ distant, whitish, changing to black. Sow. Fung. t. 262.

HAB. Dungbills, common. Chiefly Summer.

Very ephemeral, 2-5 inches high,  $\frac{1}{4}$ -2 inches broad.

6. Stipes excentrical or none.

45. *Ag. niveus*, pileus membranaceous, white, cottony, at first involute, becoming reflexed; lamellæ at first white, changing to pinkish-yellow. Sow. Fung. t. 97.

HAB. On dead sticks in damp situations, common. Spring—Autumn.

## DIV. II. CANTHARELLIDÆ.

### 3. CANTHARELLUS.

1. *C. cibarius*, plant buff-yellow; stipes solid, attenuated at the base; pileus fleshy, smooth, often irregular; veins tumid, dichotomous, often anastomosing. Fl. Edin. p. 396. Sow. Fung. t. 46. (*Agaricus cantharellus*.) With. vol. iv. p. 149. (*Merulius cantharellus*.)

HAB. In the Colehouse Plantations, Bovey Tracey. Bagtor Wood, Nisington. Summer, Autumn.

Stipes 1-2 inches long; pileus 2-4 inches broad.

### 4. MERULIUS.

1. *M. lachrymans*, orange or ferruginous, spreading, with a white cottony margin and plicate veins, forming irregular pores. Fl. Scot. part ii. p. 25. Pers. Syn. p. 496. (*M. destruens*.) Sow. Fung. 113. (*Boletus lachrymans*.) and 346. (*Boletus arboreus*.) Gray Nat. Arr. i. 637. (*Serpula destruens*.)

HAB. Decayed wood, damp cellars, &c. Common through the year.

Mostly growing in a resupinate manner, at first white, cottony, and tender, in a perfect state the folds contain drops of clear water; hence the name. This is well known as the *Dry rot*.

## DIV. III. BOLETOIDÆ.

### 5. DÆDALEA.

1. *D. quercina*, sessile, irregular in size and form, texture corky or woody, palish-brown; pileus glabrous, slightly wrinkled; hymenium sinuous, anastomosing. Pers. Syn. p. 500. Sow. t. 181. (*Agaricus quercinus*.)

HAB. Trunks of old trees, old posts, palings, &c. Through the year ; perennial.

Intermediate between the last genus and the next.

## 6. POLYPORUS.

### a. On a more or less distinct stipes.

1. *P. perennis*, plant cinnamon-colour ; stipes central ; pileus coriaceous, zoned, velvety ; pores minute, at length becoming torn. Fl. Edin. p. 398. Pers. Syn. p. 518. and Sow. Fung. t. 192. (*Boletus perennis*.)

HAB. On the ground near the roots of trees, occasionally. Woods in the neighbourhood of Moreton. Through the year.

Gregarious ; more or less funnel-shaped, often waved at the margin.

2. *P. squamosus*, stipes short, sublateral ; pileus fleshy, dingy-yellow, with darker scales ; pores large, angular, whitish. Fl. Edin. p. 399. Pers. Syn. p. 521. (*Boletus platyporus*.) Sow. Fung. t. 266. (*B. squamosus*.)

HAB. Trunks of old trees, &c. common. Summer and Autumn.

Of a spongy substance, large and spreading.

### b. Sessile or dimidiate.

#### τ. Pileus not reflexed.

3. *P. hispidus*, pileus dimidiate, thick, villose, ferruginous ; pores pale-yellow, with fringed margins. Grev. Crypt. Fl. t. 14. Pers. Syn. p. 526. (*Boletus hispidus*.) Sow. Fung. t. 345. (*B. velutinus*.)

HAB. On trunks of the Oak and Sycamore, not unfrequent. Summer and Autumn.

A large, horizontal, thick pileus, becoming black in decay, of a fibrous texture.

4. *P. igniarius*, pileus thick, smoothish, mostly ferruginous, darker at the base, zoned, convex at the margin ; tubes small, greenish, changing to reddish-brown. Fl. Edin. p. 401. Sow. Fung. t. 132. (*Boletus igniarius*.)

HAB. Trunks of trees, frequent. Perennial.

Irregular and rugose, shaped somewhat like a horse's hoof, of a hard and almost brittle texture.

5. *P. fomentarius*, pileus subtriangular, glabrous, dark cinereous brown, soft within, margin pale-glaucous ; pores very minute, colour of the margin becoming ferruginous. Fl. Edin. p. 400. Sow. Fung. t. 133. and Pers. Syn. p. 536. (*Boletus igniarius*.)

HAB. On the trunks of trees, not unfrequent. In woods at Manaton on the Birch. Through the year.

From 3-8 or 10 inches in diameter, shape of a horse's hoof, externally hard, with grey and dark zones near the edge, with long, slender, stratified pores.

The *Amadou* of commerce, an excellent styptic when properly prepared, and on the Continent commonly used as tinder.

ττ. Pileus more or less reflexed.

6. *P. velutinus*, imbricated, whitish or brownish-grey; pileus thin, velvety, obscurely zoned; pores extremely short, minute, round, and whitish. Fl. Edin. p. 401. Pers. Syn. p. 539. (*Boletus velutinus* and *B. lutescens*.)

HAB. On trees near the ground, occasionally. Summer.

7. *P. versicolor*, pileus coriaceous, villose, striped with zones of different colours; pores white, short, round. Fl. Edin. p. 402. Sow. Fung. t. 229. (*Boletus versicolor*.)

HAB. Stumps of decayed trees, old posts, &c. common. Most of the year.

Tufted, sub-imbricated, at first plane, with the commencement of the pores uppermost, afterwards reflexed; 1-3 inches broad, velvety, and tough.

τττ. Pileus effused and resupinate, (scarcely ever reflexed.)

8. *P. vulgaris*, broadly effused, thin, dry, smooth, white; pores minute, sub-equal. Fl. Edin. p. 403.

HAB. Decayed wood, &c. frequent the whole year.

Frequently spreading to a foot or more, and not separable from the substance on which it is parasitic.

## 7. BOLETUS.

τ. Tubes adnate with the stipes, or decurrent.

1. *B. luteus*, stipes dingy-white, with a permanent veil; pileus glutinous, of a deep bay-colour; tubes yellow. Sow. Fung. t. 265. Pers. Syn. p. 503. (*B. cortinatus*.)

HAB. Woods, borders of fields, &c. common. Autumn.

The only British species that has an annular and permanent veil.

2. *B. bovinus*, stipes smooth, rusty-brown; pileus rather glutinous, brown or pinkish, their tubes pale-yellow, compound, unequal in length. Sow. t. 58. With. Bot. Arr. vol. iv. p. 312.

HAB. Not unfrequent in woods and plantations. Yarnier Wood and the Colehouse Plantations, Bovey Tracey; Stover Plantations. Summer—Autumn.

Gregarious; pileus nearly plane, 2 or 3 inches broad; the flesh, which is white, does not change colour.

3. *B. piperatus*, stipes smooth, deep-yellow; pileus smooth,

brownish-yellow; tubes large, ferruginous. Sow. Fung. t. 34.

HAB. In woods and brakes. Yarnier Wood, Bovey Tracey; Hounter Wood, Manaton.

The flesh is yellow and does not change colour; the taste is very mild and pungent.

rr. Tubes distinct from the stipes.

4. *B. luridus*, stipes reticulated with red; pileus convex, sub-tomentose, olivaceous; tubes round, yellow, with crimson margins. Pers. Syn. p. 512. Sow. Fung. t. 150. (*B. rubeolaris*.)

HAB. Woods, frequent. Court Wood and Rora and Penn Woods, Il-sington. Summer—Autumn.

Stipes thick and bulbous towards the base; pileus 3-6 inches broad, becoming darker in age; flesh yellowish, instantly changing to blue, if broken; poisonous.

5. *B. scaber*, stipes firm, tapering upwards, scabrous; pileus glabrous, convex, of various colours; tubes free, round, whitish. Sow. Fung. t. 175. and also t. 110. (*B. aurantiacus*.)

HAB. Woods, &c. not unfrequent. Bagtor Wood, Il-sington; the Buckland Woods, &c. Summer—Autumn.

Pileus 2-5 inches broad, red-brownish, olivaceous, livid or grey, &c. sometimes scaly, sometimes dry and cracked; flesh white, either not changing or becoming blackish by exposure.

#### DIV. 4. HYDNOIDEÆ.

##### 8. HYDNUM.

1. *H. repandum*, stipes unequal, thick, paler than the pileus; pileus fleshy, smooth, irregular, pale flesh-colour, or buff; spinous processes unequal, pale. Grev. Crypt. Fl. t. 44. Sow. Fung. t. 176.

HAB. Woods in various parts of the country, frequent.

Pileus from 2-6 inches broad, more or less convex, smooth, brittle, fleshy, margin waved, sinuous, spreading. Edible.

#### DIV. 5. THELEPHORIDEÆ.

##### 9. THELEPHORA.

1. *Th. hirsuta*, cæspitose, yellowish, with concentric hairy lines; hymenium smooth. Pers. Syn. p. 570. Sow. Fung. t. 27. (*Auricularia reflexa*.)

HAB. Stumps of old trees, &c. frequent. Perennial.



2. *Th. rubiginosa*, imbricated, rigid, reddish-brown, somewhat zoned with purple, glabrous; hymenium papillose, purplish red, paler at the margin. Pers. Syn. p. 567. Sow. Fung. t. 26. (*Auricularia ferruginea*.)

HAB. Decayed stumps, &c. frequent. Perennial.

Several inches broad, several uniting; of a very hard and rigid substance.

3. *Th. purpurea*, imbricated, zoned, hairy; hymenium smooth, purple. Pers. Syn. p. 571. Sow. Fung. t. 388. (*Auricularia persistens*.)

HAB. Gate posts, old stumps, &c. frequent.

#### DIV. 6. CLAVÆFORMES.

##### 10. CLAVARIA.

###### τ. Branched.

1. *Cl. pratensis*, yellow, tufted; stipes short, expanding into numerous short, obtuse, fascicled branches. Pers. Syn. p. 590. With. Bot. Arr. vol. iv. p. 367. (*Cl. fastigiata*.)

HAB. Frequent in old pastures. Autumn.

About an inch high, the branches geniculate.

2. *Cl. muscoides*, yellow, erect, much branched in a dichotomous manner; branches slender, acute. Sow. Fung. t. 157.

HAB. Woods, heaths, old pastures, &c. frequent. Autumn.

3-4 inches high, solitary, branched in a straggling manner.

3. *Cl. coralloides*, thick, erect, white, with elongated, irregular, unequal, and mostly acute branches. Sow. Fung. t. 278.

HAB. Woods and heaths, frequent.

3-4 inches high, very smooth.

###### ττ. Simple.

4. *Cl. inaequalis*, yellowish, gregarious, fragile, unequal, ventricose, deformed, occasionally forked at the end. Fl. Edin. p. 414. Sow. Fung. t. 253. (*Cl. vermiculata*.)

HAB. In old pastures, frequent. Autumn.

5. *Cl. trichopus*, minute, white; stipes filiform, elongated, hairy; hymenium short, clavate. Grev. Crypt. Fl. t. 49.

HAB. On dead leaves in the lower part of Penn Wood, Ilstington. In the Buckland Woods. Autumn.

Characterized by the hairy stipes.

## 11. GEOGLOSSUM.

1. *G. hirsutum*, stipes black, hairy; hymenium plicate. Pers. Syn. p. 608. Sow. Fung. t. 83. (*Clavaria ophioglossoides*.)

HAB. In woods, wet pastures and boggy places, frequent. Ilington. Autumn.

2. *G. viscosum*, stipes black, smooth, slimy; hymenium rounded at the tip, confluent with the stipes below. Grev. Crypt. Fl. t. 55. Pers. Syn. p. 609.

HAB. Roborough Down, Rev. J. S. Tozer.

## DIV. 7. HELVELLOIDEÆ.

## 12. LEOTIA.

1. *L. lubrica*, stipes yellow, cylindrical, or unequally compressed; pileus spreading, tumid, olivaceous, the margins rounded. Grev. Crypt. Fl. t. 56. Sow. Fung. t. 70. (*Helvella gelatinosa*.)

HAB. In the lower part of the Court Wood, Ilington. Autumn.

2 or 3 inches high, gregarious, gelatinous, becoming dry with age.

## 13. HELVELLA.

1. *H. mitra*, stipes whitish, furrowed, and lacunose; pileus livid, inflated, deflexed, partially adnate with the stipes. Grev. Crypt. Fl. t. 36.

HAB. In a hedge at Coombe Farm, Ilington. Autumn.

## 14. PHALLUS.

1. *Ph. fatidus*, volva large; stipes white, cellular; pileus, cells containing a foetid sporuliferous slime. Sow. Fung. t. 329. Pers. Syn. p. 242. (*Ph. impudicus*.)

HAB. In moist shady situations, not unfrequent. Borringdon Woods. Wet Lane between Manaton village and Becky Fall. Bagtor Wood, Ilington, &c. Summer—Autumn.

6-8 inches high, growth very rapid, smell extremely foetid.

## DIV. 8. PEZIZIDEÆ.

## 15. PEZIZA.

1. *P. aurantia*, flexuose, brittle, externally white; hymenium reddish-orange colour. Pers. Syn. p. 637. Sow. Fung. t. 78. (*P. coccinea*.)

HAB. On rotten sticks in old hedges, &c. frequent.

2. *P. vesiculosa*, gregarious, caespitose, large, olive-brown, globose at first, with a connivent mouth, at length campanulate, splitting. Sow. Fung. t. 4. Pers. Syn. p. 641.

HAB. On dunghills, old thatch, &c. frequent. Spring and Autumn.

3-4 inches in diameter, substance fleshy, formed of 2 distinct parts.

3. *P. repanda*, sessile, solitary, or somewhat tufted, large, concave, at first becoming nearly plane, brown and subrugose on the inner surface, farinose and whitish on the outer, margin crenate. Grev. Crypt. Fl. t. 59.

HAB. In Bagtor Wood, Ilington, in September.

1-4 inches broad, fleshy and brittle, sometimes splitting at the edge.

4. *P. scutellata*, sessile, nearly plane, external surface of the margin with black diverging hairs; hymenium orange-red. Sow. Fung. t. 24. Pers. Syn. p. 650.

HAB. On rotten wood, old cow-dung, &c. common. Spring—Autumn.

Gregarious or scattered, 3 or 4 lines in diameter, outer surface a reddish buff-colour.

5. *P. coccinea*, large, stipitate, turbinate, or sub-infundibuliform, outer surface white and tomentose; hymenium crimson. Pers. Syn. p. 652. Sow. Fung. t. 13. (*P. epidendra*.)

HAB. On the branch of an old tree in the higher part of the Bagtor Woods. In April.

$\frac{3}{4}$ -1 inch in diameter, fleshy, on a thick stipes of about  $\frac{1}{2}$  an inch in length.

6. *P. pulchella*, small, subsessile, outer surface white, hairy, mouth contracted; hymenium yellow. Pers. Syn. p. 653. Sow. Fung. t. 17. (*P. bicolor*.)

HAB. On dead sticks in woods, not unfrequent. On Oak-twigs in the Ilington Woods; on Larch in the Stover Plantations.

Hymenium varying from pale-yellow to orange, scarcely more than a line in diameter.

7. *P. plumbea*, minute, gregarious, sessile, depressed, outer surface olive-brown, villose; hymenium blueish-grey, smooth. Grev. Crypt. Fl. t. 11.

HAB. On dead sticks, &c. in damp situations, frequent. Woods at Colehouse, &c. Autumn.

At first rather globular, becoming plane, brittle and fleshy.

8. *P. citrina*, crowded, pale-yellow, subsessile, fleshy; hymenium concave at first, becoming plane. Pers. Syn. p. 663. Sow. Fung. t. 150. (*P. aurea*.)

HAB. On old stumps, dead branches of trees, &c. common. Autumn.

Plants of various sizes growing intermixed and almost confluent with each other, of a firm thickish substance, 1 or 2 lines broad.

CRYPTOSPHÆRIA. ACOTYLEDONS. HYPOXALA. 23

9. *P. aurea*, crowded, minute, nearly plane, orange-colour, of a tremella-like substance. Pers. Syn. p. 635.

HAB. Old posts, rails, &c. common. Autumn.

Often growing in long and occasionally confluent lines; when dry, of a thin and rather horny substance.

10. *P. stercoraria*, gregarious, sessile, rather concave, olive-brown, externally furfuraceous. Sow. Fung. t. 18. Pers. Syn. p. 676. (*Ascobolus furfuraceus*.)

HAB. On old cow-dung, &c. common.

About 1 or 2 lines broad; in mature plants the surface of the hymenium is dotted with the black protruding summits of the cells, which contain the sporules; this is the characteristic of the genus *Ascobolus*.

V. HYPOXALA.

1. XYLARIA.

1. *X. hypoxylon*, gregarious, branched, compressed, black, downy at the base, white and farinaceous towards the apex. Grev. Fl. Edin. 355. Sow. Fung. t. 55. (*Clavaria hypoxylon*.)

HAB. On decaying trees, old posts, &c. common.

1-3 inches long, simple, or branched, acute at the apex, or dilated and lacinate.

2. STROMATOSPHÆRIA.

1. *St. fusca*, hemispherical, depressed, often confluent, brown, of the same colour within; spherules scarcely prominent. Fl. Edin. p. 356. Sow. Fung. t. 374. f. 8. (*Sphæria tuberculosa*.)

HAB. On the dead branches of various trees at Ilslington.

3. CUCURBITARIA.

1. *C. coccinea*, gregarious; the spherules scarlet, oval, smooth, with a papilliform mouth; size various. Fl. Edin. p. 359.

HAB. On the dead branches of various trees. In the Buckland Woods.

4. CRYPTOSPHÆRIA.

1. *Cr. Taxi*, minute, scattered; spherules depressed, mouth very short, not exerted; epidermis of the leaf convex and slightly ruptured; sporules naked, extremely minute. Grev. Crypt. Fl. vol. i. t. 13. Sow. Fung. t. 394. f. 6. (*Sphæria Taxi*.)

HAB. On the leaves of the Yew. Ilslington, and other places, common.

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2. *Cr. herbarum*, black, round, depressed, minute, scattered, orifice papilliform, piercing the epidermis like minute dots. Grev. Fl. Edin. p. 361.

HAB. Common on dead stalks of umbelliferous plants.

3. *Cr. capillata*, parasitic on dead leaves of grasses; scattered, brownish black; within white, flatly hemispherical, the apex furnished with a tuft of black rigid hairs. Grev. Crypt. Fl. vol. i. t. 69.

HAB. On Calson Down, near Meavy, on the dried leaves and stalks of *Aira flexuosa* and *Nardus stricta*, Rev. J. S. Tozer.

5. SPHÆRIA.

1. *S. spermoides*, black, globose, subrugose, crowded, orifice minute, slightly papilliform. Grev. Crypt. Fl. vol. i. t. 6. Sow. Fung. t. 372. f. 4. (*S. bombardica*.) With. Bot. Arr. vol. iv. p. 394. (*S. aggregata*.)

HAB. On old dead wood in damp situations, frequent. Near Meavy, not uncommon, Rev. J. S. Tozer.

2. *S. aurea*, gregarious, very crowded, orange-colour, ovate, somewhat acuminate, orifice indistinct. Grev. Crypt. Fl. vol. i. t. 47.

HAB. On *Hydnum repandum* in Rora Wood.

The sporules are contained in filiform hyaline tubes, from 3 to 5 in each tube.

3. *S. moriformis*, gregarious, deep black, obovate, smooth, tuberculated. Grev. Fl. Edin. p. 364. Sow. Fung. t. 337. (*S. claviformis*.)

HAB. Frequent on decayed wood.

Sometimes contiguous, and arranged regularly, at others scattered; no obvious orifice.

6. NÆMASPORA.

I. *N. rosarum*, spherules waved when horizontally divided, elevating the epidermis; mouth blackish, with a cottony margin; sporules minute, forming a simple, filiform, whitish tendril. Grev. Crypt. Fl. vol. i. t. 20.

HAB. On 2 or 3 species of the genus *Rosa*, in Woods at Ilington.

7. PHACIDIUM.

1. *Ph. coronatum*, black, orbicular, sub-hemispherical, depressed; peridium splitting into many acute segments; disk pale-yellow. Grev. Crypt. Fl. vol. i. t. 52. Sow. Fung. t. 118. (*Peziza comitalis*.)



HAB. On dead Oak-leaves in the Buckland Woods.

Scattered; at first resembling a flat, black, circular spot, at length bursting in the centre, and splitting into acute, subtriangular laciniae, which are elevated and slightly revolute.

### 8. HYSTERIUM.

1. *H. pulicare*, gregarious, black, oblong or elliptical, obtuse, striate. Grev. Fl. Edin. p. 366.

HAB. Common on the rougher bark of the Oak. Buckland Woods. Woods at Ilslington, &c.

Resembles the genus *Opegrapha*, but has no crust.

2. *H. pinastri*, oval, depressed, disk black, slightly raised, margin paler, plane. Grev. Crypt. Fl. vol. i. t. 60.

HAB. On the dead leaves of the Fir tribe, common.

3. *H. gramineum*, minute, linear-elliptical, black, on the ribs of the leaf, or culm. Grev. Crypt. Fl. vol. i. t. 87.

HAB. On dead leaves and culms of various grasses.

4. *H. rubi*, black, elliptical, or oblong, somewhat flexuose, attenuated at each end, obscurely striate; summits of the sporuliferous cells clavate. Grev. Crypt. Fl. vol. i. t. 24.

HAB. On *Rubus fruticosus* in the lower part of Penn Wood, Ilslington. Near Shaugh-bridge, Rev. J. S. Tozer.

### 9. XYLOMA.

1. *X. acerinum*, black, spreading in large irregular spots; dehiscence irregular and rugose. Fl. Edin. p. 367.

HAB. On Sycamore-leaves, frequent.

In broad black spots of a  $\frac{1}{4}$  to  $\frac{1}{2}$  an inch, rugose.

2. *X. concava*, minute, roundish, black, shining, scattered; the upper half separating. Fl. Edin. p. 368. Sow. Fung. t. 307. (*Sphaeria concava*.)

HAB. On dead Holly leaves, common.

## VI. LICHENES.

### 1. SPILOMA.

1. *S. tumidulum*, thallus somewhat cartilaginous, whitish; apothecia crowded, irregular, reddish, becoming blackish. Ach. Syn. p. 1. Ach. Lich. p. 136. E. B. t. 2151.

HAB. On the bark of trees, frequent.

### 2. ARTHONIA.

1. *A. astroidea*, thallus pale, cinereous; apothecia flattened

upon the crust, substellate, black. Ach. Syn. p. 6. Ach. Lich. p. 144. E. B. t. 1847. (*Opegrapha astroidea*.)

HAB. On smooth bark of trees, frequent. Trees near Exeter, Mr. Jacob.

2. *A. obscura*, thallus olive-colour; apothecia immersed, minute, oblong, wrinkled, black. Ach. Syn. p. 25. Lich. p. 146. E. B. t. 1752.

HAB. On the bark of trees, frequent.

3. *A. pruinosa*, thallus smooth, cracked, tartareous; apothecia flat, sunk, roundish, confluent, dark-brown, covered with mealy white. Ach. Lich. p. 147. E. B. t. 981. (*L. impolitus*.)

HAB. On the bark of trees, chiefly on Oak.

### 3. LECIDEA.

a. Thallus crustaceous, uniform. (*Catillaria*.)

r. Black, naked, (not pruinose.)

1. *L. atro-alba*, crust spreading, very thin, cracked, black, with whitish scattered areolæ; apothecia plane, black, within of the same colour. Ach. Syn. p. 11. and Lich. p. 162. E. B. t. 2336.

HAB. Rocks about Chudleigh.

2. *L. fusco-ater*, thallus very thin, black, cracked and tessellated, areolæ chesnut-brown, shining, scattered; apothecia rather convex, black. Ach. Syn. p. 12. and Lich. p. 359. (*Lecanora*.) E. B. t. 1734. (*Lichen dentriticus*.) and E. B. t. 1737. (*Lichen rivulosus*.)

HAB. Rocks in high situations, frequent. Blackstone Rock, near Moreton; rocks on the summit of Easton Down, North Bovey; Cranbrooke Castle, near Moreton; Tors of Dartmoor, common; Botton Rock, near Hennock.

3. *L. confluens*, crust tartareous, greyish-brown, tessellated; apothecia sessile, subglobose, confluent, black, immarginate, irregular, whitish within. Ach. Syn. p. 16. and Lich. p. 174. E. B. t. 1964.

HAB. On rocks, common.

4. *L. parasema*, crust thin, greyish-white; apothecia convex, black, blackish within. Ach. Syn. p. 19. and Lich. p. 175. E. B. t. 1450. (*Lichen parasemus*.)

HAB. On trees and rocks, frequent.

5. *L. atro-virens* crust thin, black, scattered, with bright-

yellow areolæ; apothecia black, and of the same colour within. Ach. Syn. p. 21. and Lich. p. 163.

β. *geographica*, areolæ bright-yellow, plane, angular; black between, and with a black margin. E. B. t. 248. (*Lichen geographicus*.)

HAB. Tors of Dartmoor, common. Hightor and Blackstone Rocks. Lustleigh Cleave; summit of Easton Down; Whiddon Park; Botor Rock.

6. *L. Ederi*, crust granular, ochraceous-red; apothecia tessellated, with a tumid margin; disk depressed, black, and black within. Ach. Syn. p. 22. Ach. Lich. p. 165. (*L. Dicksonii*.) E. B. t. 1117.

HAB. Schistose rocks at Cranbrook Castle. About Ilington.

7. *L. alba*, crust white, with a greyish powdery substance scattered over it in small clusters; apothecia minute, appressed, plane, black. Ach. Syn. p. 24. and Lich. p. 185. E. B. t. 1349. (*Lepraria alba*.)

HAB. On rocks and trees, frequent.

The fruit is extremely rare.

8. *L. immersa*, crust white; apothecia black, deeply imbedded in the rock. Ach. Lich. p. 153. E. B. t. 193. (*Lichen*.)

HAB. Limestone rocks, frequent. Ingodon, Chudleigh, Bickington, Ashburton, Babbicombe, &c.

rr. Apothecia black, pruinose.

9. *L. albo-cærulescens*, crust tartareous, when old tessellated and whitish; apothecia sessile and planè, black, with a grey bloom. Ach. Syn. p. 30. and Lich. p. 188. E. B. t. 2224. (*L. pruinus*.)

HAB. Rocks at North Bovey.

rrr. Apothecia yellow, red, or brown.

10. *L. incana*, crust spreading, soft, whitish, leproso-farinose; apothecia scattered, brown, with a paler margin. Ach. Syn. p. 36. Ach. Lich. p. 665. (*Lepraria incana*.) E. B. t. 1685. (*Lichen incanus*.)

HAB. Trunks of trees and on moss, frequent.

The apothecia extremely rare.

11. *L. casio-rufa*, crust tessellated, darkish-grey; apothecia plane, rusty-orange, margin darker. Ach. Syn. p. 44. Fl. Ang. 526. E. B. t. 1650. (*Lichen ferrugineus*.)

HAB. On granite rocks, frequent.

12. *L. aurantiaca*, crust granular, cracked, pale lemon-colour; apothecia crowded, orange, with a paler waved margin. Ach. Lich. p. 204. E. B. t. 1305.

HAB. Trees at Ilington.

13. *L. cornea*, crust white, powdery; apothecia pale brown, semi-transparent, with a similar border. E. B. t. 965. Ach. Lich. p. 194. (*L. carneola*.)

HAB. On an oak in Ugbrooke Park. On trees in Rora and Penn Woods, near Ilington.

14. *L. luteo-alba*, crust thin, smoothish, white; apothecia crowded, orange-coloured, white within. Ach. Syn. p. 49. E. B. t. 1426. Linn. Trans. vol. vii. p. 92.

HAB. Trees in Penn and Rora Woods, near Ilington.

β. Thallus crustaceous, and of some determinate figure; or foliaceous. (*Lepidoma*.)

15. *L. canescens*, crust orbicular, plaited, whitish, circumference plaited, lobed; apothecia central, black. Ach. Lich. p. 216. E. B. t. 582. Gray Nat. Arr. vol. i. p. 462. (*Lepidoma canescens*.)

HAB. Old walls and pales, frequent.

16. *L. petræa*, crust grey, white; apothecia black, confluent, arranged in irregular concentric circles. Ach. Lich. p. 155. E. B. t. 246. (*Lichen concentricus*.)

HAB. On the side of the road, three miles from Moreton to Exeter, Mr. Jacob. Dunstone Rocks at Ingsdon.

#### 4. CALICIUM.

1. *C. claviculare*, crust sub-pulverulent, greyish; apothecia subglobose, becoming flattened, greyish-black, on a thickish cylindrical black stipes. Ach. Syn. p. 57.

HAB. On dead wood, occasionally. Old trees in Ugbrook Park; in Rora and Penn Woods, Ilington.

Crust very thin; apothecia when young sessile, afterwards elevated on a short rigid peduncle.

2. *C. sphaerocephalum*, crust thin, smooth, greyish or greenish; apothecia subglobose, brownish, with a grey border on a black slender stipes. Ach. Syn. p. 57.

HAB. On the bark of old trees, occasionally. Bagtor Wood, Ilington. Holne Chase.

#### 5. GYROPHORA.

1. *G. proboscidea*, thallus with raised reticulations, at

length rough, and smoky ash-colour, beneath smoother, paler, slightly fibrilled; apothecia turbinate, at length convex, variously plaited. Ach. Syn. p. 64. E. B. t. 2484. and also 2485. (*G. arctica*.)

HAB. Tors of Dartmoor.

2. *G. erosa*, thallus rugged, olive-brown, dark grey beneath, margin perforated and jagged; apothecia variously plaited. Ach. Syn. p. 65. E. B. t. 2066.

HAB. Tors about Dartmoor, Rev. Mr. Newberry.

3. *G. cylindrica*, thallus dark grey, lobed, fringed, beneath smooth, pale, with branched fibres; apothecia elevated, flat, with concentric and plaited lines. Ach. Syn. p. 65. E. B. t. 522. (*L. proboscideus*.)

HAB. Tors about Dartmoor, occasionally, Rev. Mr. Newberry. Crockern Tor.

4. *G. deusta*, thallus roughish, olive-brown, sprinkled with black dust, beneath of the same colour, naked, pitted; apothecia plane, with circular plaits, at length convex. E. B. t. 2483. Ach. Syn. p. 66. and Lich. p. 225.

HAB. Rocks near the prison on Dartmoor.

5. *G. pustulata*, thallus blistered and warty, greenish-grey, beneath smooth, deeply pitted; apothecia margined, plane, and scattered. Ach. Syn. p. 66. and Lich. p. 226. E. B. 1283.

HAB. Tors of Dartmoor. Hightor and Blackstone Rocks. Scobitor Rocks near Widdecombe. Bottor Rock.

6. *G. pellita*, thallus smooth, brassy-brown above, black beneath, with dense pulvinate fibres; apothecia sessile, at length globose. Ach. Syn. p. 67. and Lich. p. 228. E. B. t. 931. (*Lichen pellitus*.)

HAB. Blackstone Rock. Stones on Hightor Down.

## 6. OPEGRAPHA.

1. *O. Persoonii*, crust tartareous, uneven, whitish; apothecia innate, oblong, their disk resembling a cleft, at length rugose. Ach. Syn. p. 71. E. B. t. 2345. Gray Nat. Arr. (*Hysterina Persoonii*.)

HAB. On trees, frequent.

2. *O. macularis*, crust brownish-black; apothecia minute, much crowded, roundish, irregular, at length rugose. Ach. Lich. p. 247. and 248. Ach. Syn. p. 72. E. B. t. 2282. (*O. epiphega*.)



HAB. On trees, frequent.

It forms large rough-looking black spots on the bark.

3. *O. vulgata*, crust smoothish, greenish-white ; apothecia sessile, long, cylindrical, waved, somewhat shining. Ach. Syn. p. 72. and Lich. p. 250. E. B. t. 1811. and 255.

HAB. On trees, frequent.

Crust very thin, conforming with the surface of the bark ; the apothecia irregularly disposed.

4. *O. herpetica*, crust grey-brown, roughish, finely cracked and wrinkled ; apothecia minute, innate, crowded, oblong, straight. Ach. Lich. p. 248. and 261. (*O. fuscata*.)

HAB. On trees, frequent.

5. *O. denigrata*, crust whitish ; apothecia sessile, crowded, black, longish, bent, sometimes branched, centre slightly channelled. Ach. Lich. p. 259. and 260. E. B. t. 1753.

HAB. On trees, frequent.

6. *O. notha*, crust leprous, whitish ; apothecia scattered, sessile, oval, irregular ; centre flat, at length convex, slightly tuberculate, margin minute. Ach. Lich. p. 252. E. B. t. 1890.

HAB. On trees, Mr. Jacob. Rora and Penn Wood, on the rugged bark of old trees.

7. *O. nimbosa*, crust uneven, slightly cracked, white ; apothecia oval, oblong, small, crowded, turgid ; centre closed. Ach. Lich. p. 245. E. B. t. 2346. Gray Nat. Arr. vol. i. p. 504. (*Hysterina nimbosa*.)

HAB. On trees, frequent. Rora Wood, Bagtor Wood, &c.

8. *O. diaphora*, crust membranaceous, greyish-white ; apothecia sessile ; form variable, tapering each way, centre flat, margin persistent. Ach. Lich. p. 254. Gray Nat. Arr. vol. i. p. 504. (*Alyxoria diaphora*.)

HAB. Bark of trees, frequent. Penn and Rora Woods, &c.

9. *O. calcarea*, crust thick, tartareous, very white ; apothecia straight, tumid, aggregated in a radiant manner. Ach. Lich. p. 251. E. B. t. 1790.

HAB. On the mortar of old walls, frequent.

## 7. GRAPHIS:

1. *G. scripta*, crust smooth, rather shining, white, or greyish-brown, bordered with black ; apothecia slightly raised,

flexuose, simple or branched, with a raised margin. Ach. Syn. p. 81. Lich. p. 265. E. B. 1813. (*Opegrapha*.)

HAB. On trees, frequent.

2. *G. betulina*, crust thin, white; apothecia sunk, elliptic, long, or star-like, centre broad, flat, rather hoary; border raised, membranaceous. Ach. Lich. p. 268. E. B. t. 2281. (*Opegrapha*.)

HAB. On trees frequent, chiefly on Birch. Rora, Penn, and Bagtor Woods, near Ilington.

3. *G. Lyellii*, crust membranaceous, smooth, pale-olive; apothecia crowded, mostly simple, curved, swollen, obtuse, centre broad, convex, hoary, margin thickened, powdery. Ach. Syn. p. 85. E. B. t. 1876. (*Opegrapha*.)

HAB. On the bark of old trees in Penn Wood.

4. *G. dendritica*, crust powdery, very white; apothecia sunk, waved, branched, black, branches forked, pointed, without a raised margin. Ach. Lich. p. 271. E. B. t. 1756. (*Opeg. dendritica*.)

HAB. Trees in Rora and Penn Woods, Ilington.

5. *G. serpentina*, crust whitish, uneven; apothecia immersed, crowded, zigzag, occasionally branched, obtuse, with an elevated border. Ach. Lich. p. 269. E. B. t. 1755. (*Opeg. serpentina*.)

HAB. On trees, frequent.

6. *G. pulverulenta*, crust spreading, whitish; apothecia slightly raised, waved, centre round, grey, hoary, gaping, with a raised margin. Ach. Lich. p. 266. E. B. t. 1754. (*Opeg. pulverulenta*.)

HAB. On trees, frequent.

7. *G. elegans*, crust rounded, granular, white; apothecia scattered, sunk, short, straight, grooved. Ach. Syn. p. 85. E. B. t. 1852. (*Opeg. elegans*.)

HAB. On trees, Mr. Jacob.

## 8. VERRUCARIA.

1. *V. Schraderi*, crust tartareous, unbroken, whitish; apothecia small, sunk, crowded, globular, inside whitish. Ach. Lich. p. 284. E. B. t. 1711.

HAB. On limestone rocks at Ingsdon.

2. *V. acrotella*, crust with a greenish-black branching bor-

der; apothecia conoid, at length slightly concave above, and bordered. Ach. Lich. p. 293. E. B. t. 1712.

HAB. On Rora Down near Ilington, on Schist.

### 9. ENDOCARPON.

1. *E. miniatum*, thallus foliaceous, greyish above, reddish-brown beneath, somewhat lobed and waved; orifices minute, slightly prominent, red. Ach. Syn. p. 101. E. B. t. 593. f. 1. (*Lichen miniatus*.)

HAB. Chudleigh Rocks.

2. *E. complicatum*, thallus lobed, greyish, beneath brownish-black; the lobes sub-erect, plicate, and convolute; orifices crowded, convex, black. Ach. Lich. p. 303. and Syn. p. 102. E. B. t. 593. f. 2. (*L. miniatus*.  $\beta$ . *amphibius*.)

HAB. Rocks at Moreton and North Bovey. Tors of Dartmoor. Hightor Rock.

3. *E. Weberi*, thallus lobed, greenish-brown or olivaceous above, rather tawny beneath: lobes crowded, jagged and crisped, orifices rather convex, black. Ach. Syn. p. 103. E. B. t. 594. (*Lichen aquaticus*.)

HAB. On stones in streams, common.

Bears a close resemblance to the last; greenish when wet, dries a dark-brown colour.

### 10. PORINA.

1. *P. pertusa*, crust smooth, whitish-grey; apothecia sub-globose; orifices many, depressed, black. Ach. Syn. p. 109. E. B. t. 677. (*Lichen pertusus*.)

HAB. Trunks of trees, common.

Dyes a carmelite colour.

2. *P. hymenea*, crust greyish, uneven; apothecia hemispherical, at length irregular, angular; orifices many, cracking and becoming wider. Ach. Syn. p. 120. E. B. t. 1731.

HAB. Trunks of old trees, chiefly the Oak, frequent.

Opegrapha, Graphis, Verrucaria, and Porina, form the first Division of Decandolle's Nat. Order *Hypoxyla*.

### 11. THELOTREMA.

1. *Th. lepadinum*, crust smooth, whitish; apothecia smooth, nearly conoid, margin of the orifice rather inflexed and contracted, covered at the bottom by a membrane that becomes torn. Ach. Syn. p. 115. E. B. t. 678. (*Lichen inclusus*.)

HAB. On the smooth bark of trees, occasionally; mostly on the Holly.  
Crust becomes thicker and unequal when old.

12. VARIOLARIA.

1. *V. amara*, crust greyish white, wrinkled, cracked, rather powdery; apothecia appressed, plano-concave margined, bearing soredia of the same colour as the crust. Ach. Syn. p. 131. E. B. t. 1713. (*Lichen fagineus*.)

β. *discoidea*, crust powdered; soredia very crowded, the margin much raised. Ach. Lich. p. 325. E. B. t. 1714. (*Lichen discoideus*.)

HAB. On trees, frequent. Var. β. on Beech-trees in Bagtor Wood, Il-sington.

13. LECANORA.

τ. Thallus adnate, uniform.

1. *L. atra*, crust granulated and cracked, greyish-white, with a decided edge; disk of the apothecia swelling and black; margin becoming waved and crenulate. Ach. Syn. p. 146. E. B. t. 949. (*Lichen ater*.) Gray Nat. Arr. vol. i. p. 449. (*Rinodina atra*.)

HAB. On rocks, trees, and old walls, common.

2. *L. subfusca*, crust smooth at first, becoming granulated, white or greyish; disk of the apothecia brown, becoming blackish when old, plano-convex. Ach. Syn. p. 157. E. B. t. 813.

HAB. On trees, walls, and rocks, common.

Both crust and fructification subject to vary much in colour, and the latter also in form.

3. *L. ventosa*, crust tessellated, with tumid warts, yellow-green, or grey; apothecia appressed, at length irregular, the disk brownish red. Ach. Syn. p. 159. E. B. t. 906.

HAB. Tors of Dartmoor. Hightor Rocks. Whiddon Park. Summit of Easton Down, North Bovey, &c.

4. *L. glaucoma*, crust tartareous, tessellated, greyish-white; apothecia immersed in the crust, disk glaucous and powdery, margin entire, at length obliterated. Ach. Syn. p. 165. E. B. t. 2156. (*Lichen glaucoma*.)

HAB. Rocks in Whiddon Park. On Schist in Pen Wood near Il-sington. Rocks at Widdecombe-in-the-Moor.

5. *L. perella*, crust granulated, white; apothecia thick, crowded very much, disk concave, margin tumid, entire, both the same colour as the crust. Ach. Syn. p. 169. E. B. t. 726. (*Lichen perellus*.)



HAB. Stones and rocks, frequent. Moreton. North Bovey. Hsington. Inwardleigh. Botton Rock. Rocky summits at Doddiscombesleigh.

Yields a grey dye; the apothecia are frequently of an irregular angular form from mutual pressure.

6. *L. tartarea*, crust tartareous, with clustered granules, greyish-white; apothecia scattered, disk wrinkled, flesh-coloured, margin inflexed, at length waved. Ach. Syn. p. 172. and Lich. p. 371. E. B. t. 156. (*Lichen tartareus*.)

HAB. Tors of Dartmoor. North Bovey. Hightor and Blackstone Rocks. Generally in higher and more exposed situations than the last.

Yields a violet and puce-colour dye.

7. *L. vitellina*, crust granulated, bright yellow; apothecia crowded, disk plane, of the same colour as the crust, at length convex, deeper coloured and powdery, margin raised, at length waved and pulverulent. Ach. Syn. p. 174. E. B. t. 1792. (*Lichen vitellinus*.)

HAB. On old pales, &c. frequent.

8. *L. cerina*, crust grey, slightly granular; apothecia wax-yellow, margin raised, inflexed, white, becoming at length black. Ach. Lich. p. 390. E. B. t. 627.

HAB. On the bark of trees, frequent.

9. *L. salicina*, crust dirty yellow, granulated; apothecia pale orange, disk plane, at length convex, margin thin, slightly crenulate. Ach. Lich. p. 400. E. B. t. 1305.

HAB. Trees on the road from Exeter to Chudleigh, two miles and a-half from the latter, Mr. Jacob.

10. *L. hæmatomma*, crust tartareous, pulverulent, whitish; apothecia imbedded, scattered, and confluent, the disk scarlet, rather convex. Ach. Syn. p. 178. E. B. t. 486. (*Lichen hæmatomma*.) and 223. (*L. coccineus*.)

HAB. Tors in the wildest parts of Dartmoor. Rocks in Whiddon Park. On walls near Moreton.

Yields a chesnut-brown dye.

τ τ. Thallus adnate, radiato-stellate, the circumference lobed.

11. *L. murorum*, crust plicate and rugged, cracked, bright yellow, the surface powdery, segments linear convex, jagged; apothecia crowded, disk changing to a deeper yellow, margin waved, entire. Ach. Syn. p. 181. E. B. t. 2157. Gray Nat. Arr. vol. i. p. 447. (*Placodium murorum*.)

HAB. On old walls at Moreton, Gidleigh, Hsington, Inwardleigh, Tor Abbey, &c. Rocks at Babbicombe, &c.

12. *L. saricola*, crust sub-imbricate, scaly, roughish, pale-green; apothecia very much crowded, disk plane, yellowish-



brown; the margin at length waved, and crenate. Ach. Syn. p. 180. E. B. t. 1695.

HAB. On rocks and walls.

Crust regular, orbicular, nearly covered by the fructification.

13. *L. gelida*, crust pale, reddish-grey, cracked, the circumference rayed, jagged; brown warts in the centre, cracked, and rayed; apothecia depressed, reddish, margin thick, raised, entire. Ach. Syn. p. 186. E. B. t. 699. (*Lichen gelidus*.) Gray Nat. Arr. vol. i. p. 448. (*Placodium gelidum*.)

HAB. On Schist on the top of the Bridford Woods, by the old road from Moreton to Exeter.

The singular central warts mark this species.

τ τ τ. Thallus imbricated throughout.

14. *L. candelaria*, crust scaly, yellow, lobes crowded, lacinated, their margins pulverulent; apothecia yellow, margin raised, entire. Ach. Syn. p. 192. E. B. t. 1794. (*Lichen candelarius*.)

β. *polycarpa*, lobes with crowded teeth and segments; apothecia crowded, margin crenulated. E. B. t. 1795. (*Lichen polycarpus*.)

HAB. On walls, common. Var. β. common also.

#### 14. PARMELIA.

τ. Segments of the thallus not inflated at the tips. (*Circinaria*.)

1. *P. glomulifera*, thallus round, cartilaginous, livid and glaucous, beneath tawny and downy, bearing dark green, tufted excrescences; apothecia reddish-brown, with a rugose margin. Ach. Syn. p. 195. E. B. t. 293. (*Lichen glomuliferus*.) Fl. Ang. p. 544. (*L. laciniatus*.)

HAB. Widdecombe-in-the-Moor. Trees on the west side of Chagford. Manaton. Trees at Bagtor and Horridge near Ilington. Brentor near Tavistock. Botton Rock near Hennock.

2. *P. caperata*, thallus orbicular, pale yellowish green, rugose, at length granulated, black and hispid beneath; apothecia brown, margin entire, incurved. Ach. Syn. p. 196. E. B. t. 654. (*Lichen caperatus*.)

HAB. On rocks and trees, common.

3. *P. perlata*, thallus orbicular, greyish-white, smooth; blackish-brown and hairy beneath; apothecia brown, with thin entire margins. Ach. Syn. p. 197. E. B. t. 341. (*Lichen perlatus*.)

HAB. On stones and trees, common, fruit only on the topmost branches.

4. *P. perforata*, thallus round, greenish-white, naked, beneath black, fibrilled; lobes rounded, cut, flat, edge folded, crenate, fringed; apothecia reddish, at length perforated, border thin, entire. Ach. Lich. p. 459. Gray Nat. Arr. vol. i. p. 438.

HAB. Trees, frequent, and on rocks in the granite district.

The fringed crenate lobes, perforated apothecia, and long fibrils beneath, distinguish this from *P. perlata*.

5. *P. tiliacea*, thallus rounded, membranaceous, greyish-green, rather hoary, beneath blackish-brown, with black fibrils; lobes sinuated, jagged, the outer ones rounded, crenate; apothecia brown, border entire. Ach. Lich. p. 460. E. B. t. 700. (*Lichen tiliaceus*.)

HAB. On trees in Holne Chace, the Buckland Woods, and Spitchwick.

6. *P. herbacea*, thallus orbicular, bright green above, beneath pale brown, almost white, and downy; lobes waved, cut, subcrenate; apothecia reddish, with a rugose, crenate, inflexed margin. Ach. Syn. p. 199. E. B. t. 294. (*Lichen late-virens*.)

HAB. Rocks and trees in damp shady situations. Bagtor Wood, Ilington. North Bovey. Manaton. Lustleigh. Chagford. Woods about Berry Pomeroy Castle. Botor Rock near Hennock.

7. *P. olivacea*, thallus orbicular, olive-brown, rugged with elevated points, paler beneath, and slightly fibrous; apothecia dark brown, margins crenulate. Ach. Syn. p. 200. E. B. t. 2180.

HAB. Trees and rocks, common, adhering very closely to them.

8. *P. parietina*, thallus orbicular, bright yellow, beneath paler and subfibrillose; apothecia of the same colour, their margins very entire. Ach. Syn. p. 200. and Lich. p. 465. E. B. t. 194.

HAB. Trees and walls, common.

9. *P. plumbea*, thallus orbicular, blueish-grey, having a very thick spongy down beneath; apothecia rusty-brown, their margins entire, of the same colour. Ach. Syn. p. 202. E. B. t. 353.

HAB. On trees, common.

10. *P. rubiginosa*, thallus orbicular, brownish-grey having a blueish-grey spongy down beneath; apothecia reddish-brown, crowded, with whitish, incurved, crenulate margins. Ach. Syn. p. 202. E. B. t. 983. (*Lichen affinis*.)

HAB. On trees, common, with the former.



11. *P. omphalodes*, thallus orbicular, dark purplish-brown, shining, dotted with black, beneath black and fibrillose; apothecia dark brown, the margin slightly crenulate. Ach. Lich. p. 469. and Syn. p. 203. E. B. t. 604.

HAB. Tors of Dartmoor. Rocks about Moreton. North Bovey, Ilsington, &c. common.

12. *P. saxatilis*, thallus orbicular, greyish, rough, beneath black and fibrillose; apothecia bay-colour, margin crenulate Ach. Syn. p. 203. E. B. t. 603.

HAB. Rocks and trees, common.

13. *P. aquila*, thallus rounded, chesnut-brown, beneath paler, with blackish fibres, segments many parted, nearly linear, convex, those of the circumference dilated, plane, crenate; apothecia dark-brown, margin crenate. Ach. Syn. p. 205. E. B. t. 982.

HAB. Rocks at North Bovey. Hightor Down. Blackstone Rock. Rocky summits at Doddyscombesleigh, &c.

14. *P. Borreri*, thallus rounded, greyish-green, even, sprinkled with whitish soredia, beneath brown, fibrous; lobes sinuate, outer ones rounded, deeply crenate; apothecia reddish-brown, border incurved. Ach. Lich. p. 461. E. B. t. 1780. Gray Nat. Arr. vol. i. p. 437. Linn. Trans. vol. ix. p. 148.

HAB. Trees at North Bovey, Ilsington, and Tor Abbey.

15. *P. aleurites*, thallus rounded, continuous, pale grey, pulverulent, beneath of the same colour with black fibres, outer segments distinct, plane, rounded, waved, deeply crenate; apothecia plane, reddish-brown, border becoming crenulate and powdery. Ach. Syn. p. 208. E. B. t. 858. Gray Nat. Arr. vol. i. p. 442. (*P. diffusa*.)

HAB. On trees, old rails, &c. frequent.

16. *P. conspersa*, thallus orbicular, greenish-yellow with blackish dots, beneath brown and fibrilled, the segments rounded, crenate, nearly plane; apothecia central, reddish-brown, margin sub-entire. Ach. Syn. p. 209. E. B. t. 2097.

HAB. Dartmoor. Rocks at North Bovey and Ilsington. Near Clifford Bridge on the Drewsteignton Road. Botton Rock. Widdecombe-in-the-Moor, &c.

17. *P. pulverulenta*, thallus stellate, greyish, hoary, beneath black, downy and hispid, segments linear, many cut, the circumference flat, waved, adpressed; apothecia glaucous black, margin flexuose, entire. Ach. Syn. p. 214. and Lich. p. 475. E. B. t. 2063.

HAB. On trees occasionally. Bovey Tracey near the River. Bagtor Wood, Ilstington.

18. *P. stellaris*, thallus stellated, greyish-green, white with grey fibres beneath, segments linear, multifid; apothecia glaucous black, margin entire, at length waved, crenate. Ach. Syn. p. 216. E. B. t. 1697.

HAB. On trees and old pales, common.

19. *P. casia*, thallus stellated, greyish-white and glaucous, with soredia scattered over the surface, beneath ash-colour with black fibres, the segments linear, cut, multifid, convex, but plane at the ends; apothecia black with a sub-inflexed margin. Ach. Syn. p. 216. E. B. t. 1052.

HAB. On trees, rails, and old walls, frequent.

The fructification is rare.

rr. Segments of the thallus inflated at the ends. (*Physcia*.)

20. *P. diatrypa*, thallus substellate, greyish, beneath rugose, blackish, segments sinuated, multifid, flattish, smooth, perforated, bearing soredia; apothecia reddish with entire margins. Ach. Syn. p. 219. E. B. t. 1248. (*Lichen diatrypus*.) Gray Nat. Arr. vol. i. p. 436. (*Physcia diatrypa*.)

HAB. Rocks near North Bovey village.

21. *P. physodes*, thallus glaucous white, beneath naked, brownish-black, segments imbricated, sinuato-multifid, convex, inflated and ascending at the extremity; apothecia red-brown, margin entire. Ach. Syn. p. 218. E. B. t. 126.

HAB. Old pales and rocks, common.

### 15. BORRERA.

1. *B. ciliaris*, thallus glaucous green, segments linear, branched, attenuated, ciliated, especially towards the apices; apothecia mostly terminal, disk blackish-brown, pruinose, margin crenate and fimbriated. Ach. Syn. p. 221. E. B. t. 1352. (*Lichen ciliaris*.)

HAB. Trunks of trees, frequent.

2. *B. tenella*, thallus greyish-white, naked on both sides, and of the same colour, segments pinnatifid, their tips dilated and fringed; apothecia scattered, disk black, pruinose, margin entire. Ach. Syn. p. 221. and Lich. p. 493. E. B. t. 1351.

HAB. Trees frequent, on the smaller branches.

3. *B. furfuracea*, thallus brownish, or greenish-grey, fari-



naceous, beneath grooved, rugose, blackish, naked, segments linear, narrow, branched; apothecia nearly marginal, cup-shaped, margins thin, inflexed. Ach. Syn. p. 222. E. B. t. 984.

HAB. Dartmoor and the neighbouring Tors.

4. *B. flavicans*, thallus yellow, naked, segments branched, narrow, complicated, fibrilled, cirrose; apothecia scattered, disk orange-red, margin entire, naked. Ach. Syn. p. 225. E. B. t. 2113. (*Lichen flavicans*.)

HAB. Trees and rocks about Dartmoor, frequent. Botor Rocks. Trees at Inwardleigh. Lustleigh Cleve.

#### 16. CETRARIA.

1. *C. glauca*, thallus glaucous, sinuated and lobed, beneath brown, segments cut and jagged, curled, ascending; apothecia elevated, chesnut-brown, margin wrinkled. Ach. Syn. p. 227. E. B. t. p. 1066. (*Lichen glaucus*.)

β. *fallax*, thallus white on both sides, occasionally with black spots beneath. Ach. Lich. p. 509. E. B. t. 2373. (*L. fallax*.)

HAB. Rocks in Whiddon and Gidleigh Parks. Hightor Down and about Widdcombe-in-the-Moor, common. Botor Rock. β. Blackstone Rock, Mr. Jacob.

The fructification is rare.

#### 17. STICTA.

1. *S. pulmonaria*, thallus olivaceous, pitted and reticulated, beneath downy with smooth pale elevations, segments sinuated, lobed, truncate; apothecia plane, reddish, nearly marginal, margin rugose. Ach. Syn. p. 233. E. B. t. 572.

HAB. Woods and trees about Ilington. Lustleigh Cleve. Beckey Fall near Manaton. Whiddon Park. Woods at Harford. Woods about Berry Pomeroy Castle. Morwell Rock near Tavistock. Botor Rocks, &c.

2. *S. scrobiculata*, thallus glaucous, greyish-green, pitted, and bearing mealy warts, beneath downy, with white naked spots. Ach. Syn. p. 234. and Lich. p. 453. E. B. t. 497.

HAB. Beckey Fall. Bagtor Woods. Lustleigh Cleve. North Bovey. Inwardleigh. Botor Rock. Woods about Berry Pomeroy Castle.

3. *S. limbata*, thallus orbicular, glaucous brown, grey and powdery at the margin; beneath downy, with white hollow spots, (cyphels); apothecia brown. Ach. Syn. p. 236. Ach. Lich. p. 453. E. B. t. 1104. (*Lichen limbatus*.)



HAB. On Ash trees near Bagtor. Rocks at North Bovey. Botton Rocks.

4. *S. fuliginosa*, thallus dark lurid-grey with rough brown granules, beneath greyish, villose, with white pits, segments roundly lobed, sub-entire; apothecia scattered, dark-brown, their margins entire. Ach. Syn. p. 236. and Lich. p. 454. 455. (*S. ambavillaria*.) E. B. t. 1103.

HAB. Bagtor Woods, Ilsington. Manaton near the Church.

5. *S. sylvatica*, thallus rusty brown, naked, and pitted, beneath brown and downy, with small pale pits, segments lobed, obtusely cut, unequal; apothecia marginal, brown. Ach. Syn. p. 236. E. B. t. 2298.

HAB. Hedges in the neighbourhood of Dartmoor, common.

The fructification is rare. The smell very fetid.

### 18. PELTIDEA.

1. *P. horizontalis*, thallus glaucous, brownish-green, lobed, crenate, fertile lobes shorter, beneath white, with a net work of blackish veins; apothecia plane, horizontal, transversely oblong, brown, margins entire. Ach. Syn. p. 238. E. B. t. 888.

HAB. Dunsford Hill, on the Exeter Road; Ilsington, &c.

2. *P. aphthosa*, thallus green, smooth, sprinkled with brown warts, beneath whitish with dark branching veins, roundly lobed, fertile lobes longest, contracted in the middle, margins reflexed; apothecia large, ascending, reddish, margin torn. Ach. Syn. p. 238. and Lich. p. 516. E. B. t. 1119.

HAB. Shady moist situations in woods, &c. About Ilsington, Lustleigh, &c. A large species. The fructification becoming much enlarged when old.

3. *P. canina*, thallus greyish-green with broad roundish lobes, white beneath with dark branching veins, fertile lobes longer, their sides reflexed; apothecia sub-erect, revolute, reddish-brown, border thin, sub-crenulate. Ach. Syn. p. 239. E. B. t. 2299.

HAB. Old thatched roofs, hedges, &c. common.

4. *P. rufescens*, thallus polyphyllous, reddish-brown, beneath reddish-white, with obsolete veins; lobes deeply sinuate, jagged, incurved, fertile lobes shorter; apothecia erect, dark brown, border entire. Ach. Syn. p. 239. E. B. t. 2300.

HAB. Hedges and downs, common, mixed with the former. North Bovey. Manaton, Ilsington. Milborne Down near Newton Abbott.

The fructification is rare.

5. *P. polydactyla*, thallus glaucous green, beneath naked, reticulated with brown veins, fertile lobes very long and numerous, revolute; apothecia reddish-brown. Ach. Syn. p. 240.

HAB. High situations. About Ilington and Beckey Fall. Woods between Moreton and Exeter.

The fertile lobes, which are produced in a digitate manner from the margin, are numerous, long and narrow, with the margins so reflexed as to make them almost tubular; and the apothecia are rounded in the same way.

### 19. NEPHROMA.

1. *N. resupinata*, thallus greyish-brown, pubescent, and granulated beneath, fertile lobes very short; apothecia large, numerous, reddish. Ach. Syn. p. 241. E. B. t. 305.

HAB. Rocks and trees, frequent. Ilington. North Bovey. Manaton. Chagford. Whiddon Park. Botor Rock, &c.

### 20. EVERNIA.

1. *E. prunastri*, thallus greenish-white, segments dichotomous, multifid, sub-erect, linear, grooved and white beneath; apothecia bright brown, concave. Ach. Syn. p. 245. E. B. t. 859. (*Lichen prunastri*.) and 1353. (*Lichen stictoceros*.)

HAB. Branches of trees, common.

### 21. CENOMYCE.

a. Thallus foliaceous; podetia dilated above, and cup-bearing, or attenuated and subulate; cups closed with a membrane. (*Scyphophora*.)

τ. Apothecia brown, or pale.

1. *C. alcicornis*, thallus large, pale, glaucous green, the segments subpalmated, ascending, obtuse, incurved, hairy at the edges; podetia all cup-bearing; cups regularly crenate, edge at length leafy and proliferous; apothecia brown. Ach. Syn. p. 250. and Lich. p. 529. 530. (*C. damæcornis*.) E. B. t. 1392.

HAB. Tors around Dartmoor, common.

2. *C. endivifolia*, thallus large, glaucous, yellow-green, segments multifid, crenate, crisped; podetia turbinate, mostly simple; apothecia marginal, brown. Ach. Lich. p. 528. E. B. t. 2361.

HAB. Rocks about Hightor. Botor Rock.



3. *C. cervicornis*, thallus glaucous green, segments erect, multifid, narrow, subdentate; podetia cylindrical, short, glabrous, at length black, all cup-bearing; cups small, regular, dilated, entire, flattish, proliferous from the centre; apothecia marginal, sessile, brownish-black. Ach. Syn. p. 251. E. B. t. 2574.

HAB. Hightor and the neighbouring downs.

Grows in erect, densely crowded tufts; the thallus glaucous green on one side, white on the other, the base black.

4. *C. pyxidata*, thallus with the segments crenulated, and ascending; podetia turbinate, all cup-bearing, glabrous, at length becoming granular, rough, greenish-grey; cups regular, margin at length proliferous; apothecia brown. Ach. Syn. p. 252. E. B. t. 1393.

HAB. Heaths, rocks and roots of old trees, common.

5. *C. fimbriata*, thallus with the segments small and crenate; podetia some elongated, cylindrical, cup-bearing, some subulate, slender, pulverulent, white; cups regular, margin entire and crenate, at length proliferous; apothecia brown. Ach. Syn. p. 254. E. B. t. 2438.

β. *cornuta*, podetia simple, or branched, subulate, mostly sterile. Ach. Syn. p. 257. E. B. t. 1836. (*Lichen cornutus*.)

HAB. North Bovey, Hightor Down, &c.

A slenderer and taller plant than the last; the margins of the cups more irregular, being all either dentated, serrated, or fimbriated.

ττ. Apothecia scarlet.

6. *C. bacillaris*, thallus small, segments lobate, crenate; podetia cylindrical, simple, or slightly branched at the tip, greenish white, granulated, rarely cup-bearing; cups narrow, becoming radiated; apothecia minute. Ach. Syn. p. 266. and Lich. p. 542. E. B. t. 2028. (*Lichen filiformis*.)

HAB. Hightor Down. On the Down above Ruddy Brook in the parish of Bovey Tracey, and in similar situations, not uncommon.

7. *C. digitata*, thallus small, segments expanded, rounded, crenate, greenish-yellow, pulverulent beneath; podetia cylindrical, cup-bearing, the colour of the thallus, and pulverulent; cups small, narrow, becoming large, with numerous rayed or digitate proliferations. Ach. Syn. p. 267. E. B. t. 2439.

HAB. In the road between North Bovey and Moreton. Hollows of old trees at Ilsington.

8. *C. deformis*, thallus minute, segments broadish, crenate, naked beneath; podetia long, thick, subventricose, sulphur-coloured, slightly pulverulent, cup-bearing; cups narrow, crenately toothed, afterwards dilated and torn; apothecia sessile, and pedicelled. Ach. Syn. p. 268. and Lich. p. 538. E. B. t. 1394. (*Lichen deformis*.)

HAB. Roots and stumps of old trees, frequent.

9. *C. coccifera*, thallus minute, segments rounded, crenate, naked beneath; podetia turbinate, elongate, naked, roughish, pale-yellow or greyish-green, all cup-bearing; cups with spreading fertile margins; apothecia large, becoming pedicelled. Ach. Syn. p. 269. and Lich. p. 537. E. B. t. 2051. (*Lichen cocciferus*.)

β. *cornucopioides*, podetia short, cup-shaped; cups dilated, crisped, foliaceous; apothecia subpedicelled, at length proli-ferous. Ach. Lich. p. 538.

HAB. Tors of Dartmoor. Rocks at North Bovey.

The two varieties grow intermixed with each other.

b. Thallus foliaceous; podetia fistulose, dilated, cup-bearing; cups open. (*Schasmaria*.)

10. *C. sparassa*, thallus minute, lobed and crenated; podetia elongated, branched, subventricose, granulated, rough with leafy scales; cups irregular, open, dentato-radiate, proli-ferous; apothecia pale-brown, pedicelled. Ach. Syn. p. 273. Huds. Fl. Ang. p. 554. (*Lichen ventricosus*.) Gray Nat. Arr. vol. i. p. 417. (*Schasmaria sparassa*.) E. B. t. 273.

HAB. Bagtor, Rora, and Pen Woods, Ilington, freq. ent.

c. Thallus foliaceous, or scarcely any; podetia elongated, cartilaginous, stiff, fistulose, all subulate and branched, with, for the most part, perforated axils. (*Cladonia*.)

11. *C. furcata*, podetia smooth, livid-brown, dichotomous, axils not perforated; branches curved, ends forked, diver-gent; apothecia brown. Ach. Lich. p. 560. and Syn. p. 276. Gray Nat. Arr. vol. i. p. 414. (*Cladonia furcata*.)

β. *subulata*, with fewer and more erect branches, and capi-tate podetia. Ach. Lich. p. 550. and Syn. p. 276.

HAB. On exposed downs, frequent. β. On Dartmoor. Heaths at North Bovey. Hightor Down, &c.

12. *C. uncialis*, podetia glabrous, dichotomous, the axils perforated, ends of the branches spreading, short, stiff; apo-



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thecia terminal, brownish. Ach. Syn. p. 276. and Lich. p. 558. E. B. t. 174.

HAB. Dartmoor, frequent. Hightor Down. Woodbury Hill.

13. *C. rangeferina*, podetia erect, rough, cylindrical, ash-coloured, branched, axils often perforated; branches scattered, spreading, much divided, incurved or drooping at the ends; apothecia subglobose, clustered, brown. Ach. Syn. p. 277. and Lich. p. 564. E. B. t. 173. Linn. Fl. Lapponica, p. 332.

HAB. Woods and heaths, common.

One of the largest and most common of the genus; the drooping summits characterize it. We have referred to the Flora Lapponica for the sake of the interesting account Linnæus has there given of this Lichen and the animals it supports.

#### 22. BEOMYCES.

1. *B. roseus*, crust uniform, granulated, greenish-white; podetia cylindrical, very short; apothecia subglobose, pale flesh-colour. Ach. Syn. p. 280. E. B. t. 374. (*Lichen ericetorum*.)

HAB. Bovey Heathfield, between the pottery and rail-road.

2. *B. rufus*, crust uniform, granulated, pulverulent, greenish or whitish-grey; podetia short, slightly compressed; apothecia slightly convex, becoming conglomerate, reddish-brown. Ach. Syn. p. 280. E. B. t. 373. (*Lichen Byssoides*.)

HAB. Rocks in the neighbourhood of Dartmoor, and also on the ground amongst mosses. Hightor and adjoining downs, &c.

The crust and fructification darker than in the preceding species.

#### 23. ISIDIUM.

1. *I. corallinum*, crust tartareous, greyish-white; podetia minute, cylindrical, smooth, simple or branched; apothecia brownish-grey. Ach. Syn. p. 281. E. B. t. 1541.

HAB. Rocks on the high exposed downs of the granite district.

Forms a thick crust on the surface of the rocks, which consists of a number of densely crowded podetia, of a hard brittle substance.

#### 24. STEREOCAULON.

1. *St. paschale*, thallus greyish, branched, and rough with granulated excrescences; branches crowded and much divided; apothecia scattered and terminal, blackish-brown, becoming convex and conglomerate. Ach. Syn. p. 284. E. B. t. 282.



HAB. Tors of Dartmoor. Within the inclosure of Grimspound. Botton Rock, near Hennock. High Tor Down. Down above Yarnar Wood, in Bovey Tracey, &c.

## 25. SPHÆROPHORON.

1. *Sp. coralloides*, thallus palish-brown, main stem mostly undivided; branches elongated, lax, divaricated, and forked, acuminate; apothecia subglobose, smooth. Ach. Syn. p. 287. E. B. t. 115. (*Lichen globiferus*.)

HAB. Rocks on high downs, common.

1-3 inches high, the branches lateral and very attenuated.

2. *Sp. fragile*, thallus greyish, branched; branches dichotomous, short, crowded, fastigiate, round, obtuse; apothecia globoso-turbinate, rather warty. Ach. Syn. p. 287. E. B. t. 2474.

HAB. On Sheep's Tor and two or three other of the Dartmoor Tors.

Differs from the preceding in its smaller size and in being very brittle.

3. *Sp. compressum*, thallus whitish, branched; branches compressed, with naked subfibrillose ramuli; apothecia subglobose, flattened and smooth above. Ach. Syn. p. 287. E. B. t. 114. (*Lichen fragilis*.)

HAB. On the Dartmoor Tors.

Differs from both the former in the compressed frond; it is very rarely found in fruit.

## 26. ALECTORIA.

1. *A. jubata*, thallus rounded, somewhat shining, livid-brown or dark-green, much branched, branches filiform, pendulous, compressed at the joints; apothecia of the same colour as the frond. Ach. Syn. p. 291. E. B. t. 1880.

HAB. Tors of Dartmoor. Hightor Rocks. Lustleigh Cleave.

The fructification is very minute and of rare occurrence.

## 27. RAMALINA.

1. *R. fraxinea*, thallus plane, linear, laciniated, greyish-white, smooth, rugose, and pitted; apothecia mostly marginal, plane, pale flesh-coloured. Ach. Syn. p. 296. E. B. t. 1781.

HAB. Trunks and branches of trees, common.

The largest of the genus, often a foot or more in length, and subject to much variation.

2. *R. fastigiata*, thallus compressed, glabrous, pitted, branched, greyish or glaucous-white; branches thickened and

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fastigiate above; apothecia terminal, white, sessile, or subpeltate. Ach. Syn. p. 296. E. B. t. 890.

HAB. Rocks and trees, frequent. Lustleigh Cleve. Hightor Rocks. Bagtor Woods, &c.

3. *R. scopulorum*, thallus compressed, branched, yellowish-grey; branches linear, attenuated; apothecia scattered, pedicelled, colour of the thallus. Ach. Syn. p. 297. E. B. t. 688.

HAB. Hightor Rocks.

Has a bitter taste, and is very rigid and brittle.

4. *R. farinacea*, thallus compressed, glabrous, somewhat pitted, bearing powdery warts, branches linear, attenuated; apothecia scattered, on short stalks, plane, whitish, scarcely margined. Ach. Syn. p. 298. E. B. t. 889.

HAB. Trunks of trees, common.

The fructification is very rare; it varies much, in being more or less branched, more or less slender or robust, sub-erect or pendulous, with many or few soredia.

5. *R. pollinaria*, thallus plane, white, slightly hoary, jagged, rather pitted; soredia flat, dilated, powdery; apothecia nearly terminal, very dilated, green beneath; disk reddish, margin raised, slightly incurved. Turton's Tr. Syst. Nat. vol. ii. p. 1782.

HAB. On Elm-trees, near Ide. Mr. Jacob.

23. CORNICULARIA.

1. *C. tristis*, thallus blackish-brown, subcompressed, smoothish, distichously dichotomous; branches fastigiate, black above; apothecia brownish-black, slightly margined. Ach. Syn. p. 299. E. B. t. 720. (*Lichen tristis*.)

HAB. Tors of Dartmoor, Rev. Mr. Newberry.

2. *C. lanata*, thallus greyish-black, decumbent, rounded, smoothish, dichotomous; branches intricate, flexuose, forked at the end; apothecia plane, with a slightly naked, granulated margin. Ach. Syn. p. 302. E. B. t. 846.

HAB. Tors of Dartmoor, Rev. Mr. Newberry.

3. *C. aculeata*, thallus chesnut-brown, glabrous, roundish, angular, pitted, subcompressed, naked; branches and branchlets divaricated, flexuose, prickly; apothecia reddish-brown, the circumference subdentate. Ach. Syn. p. 299.

β. *spadicea*, thallus plano-compressed, the margins denticulate; the branches and branchlets short, patent, attenuated; apothecia radiated with spinose processes. Ach. Syn. p. 300.



E. B. t. 452. and With. Bot. Arr. vol. iv. p. 43. (*Lichen hispidus*.)

HAB. On the Dartmoor Tors, Mr. Newberry.

## 29. USNEA.

1. *U. florida*, thallus nearly erect, roughish, greenish-grey, with numerous fine horizontal fibres; branches spreading, mostly simple; apothecia plane, very broad, whitish, with long radiating ciliæ. Ach. Syn. p. 304. E. B. t. 872.

HAB. Branches of old trees, common.

Differs from the following in its rigidity, sub-erect branches, horizontal fibrils, and larger and more frequent fructification.

2. *U. plicata*, thallus pendulous, smooth, pale; branches lax, much divided, subfibrillose, ultimate ones capillary; apothecia plane, broad, with very long slender ciliæ. Ach. Syn. p. 305. E. B. t. p. 257.

HAB. Trees at Ilington, frequent.

$\beta$ . *hirta*, thallus sub-erect, subpulverulent and roughish. E. B. t. 1354. (*Lichen hirtus*.)

HAB. Court Wood, Ilington. Woods about Berry Pomeroy Castle.

3. *U. barbata*, thallus glabrous, greenish-grey; branches elongate, dichotomously divided, articulated, articulations swelling, ultimate branches capillary. Ach. Syn. p. 306. E. B. t. 258. f. 2. (*L. articulatus*  $\beta$ .)

$\beta$ . *articulata*. E. B. t. 258. (*Lichen articulatus*  $\alpha$ .)

HAB. Widdecombe-in-the-Moor. Beckey Fall. Bagtor Woods. West side of Chagford.

## 30. COLLEMA.

$\tau$ . Thallus foliaceous; lobes membranaceous, blackish-green. (*Lathagrium*.)

1. *C. nigrescens*, thallus submonophyllous, orbicular, depressed, radiated, plaited, rounded, lobed, blackish-green; apothecia central, crowded, reddish-brown, margin entire. Ach. Syn. p. 321. E. B. t. 345. (*Lichen nigrescens*.)

HAB. On trees, common.

2. *C. furvum*, thallus rather wrinkled, folded, blackish-green, granular on both sides, lobes irregularly rounded, entire, occasionally wavy, crisped; apothecia scattered, plane, blackish-brown, margin entire. Ach. Lich. p. 650. E. B. t. 1737. (*Lichen granulatus*.)

HAB. On the bark of old trees, and on walls, occasionally.

††. Thallus foliaceous; lobes rounded, membranaceous, thin, glaucous grey, subdiaphanous; apothecia on short pedicels. (*Leptogium*.)

3. *C. lacerum*, thallus nearly erect, with obscure reticulations, lobes small, subimbricate, cut and laciniated, and somewhat fringed; apothecia scattered, red with a paler margin. Ach. Syn. p. 327. E. B. t. 1982. (*Lichen lacer*.)

HAB. North Bovey. Moreton. Ilington. Beckey Fall. Frequent amongst moss, in densely crowded tufts.

4. *C. tremelloides*, thallus lead-coloured, lobes rounded, somewhat cut; apothecia scattered, subpedicellate, reddish-brown, at length black, margin pale. Ach. Syn. p. 326. E. B. t. 1981.

HAB. In the road between Moreton and Bovey Tracey. Wet banks at Ilington. The fructification rare.

†††. Thallus plicate, imbricate, sub-orbicular, composed of minute lobes, (when moistened thick and turgid.) (*Enchylium*.)

5. *C. melanum*, lobes of the thallus deeply laciniated; apothecia marginal and scattered, dark brown, their margin entire. Ach. Syn. p. 315.

β. *marginalis*. Ach. Syn. p. 316. E. B. 1924. (*L. marginalis*.)

HAB. Totness Castle. Walls at North Bovey and Ilington.

## VII. ALGÆ.

### DIV. I. CHÆTOPHOROIDEÆ.

#### 1. PALMELLA.

1. *P. defracta*, simple, filiform, tortuous, subpellucid, viscid, internally gelatinous and sprinkled with red dots. Gray Nat. Arr. vol. i. p. 348. With. Bot. Arr. vol. iv. p. 124. t. 18. E. B. t. 1626.

HAB. On the beach beyond Sidmouth, entangled with the sea weeds.

From 3-12 inches in length, 1 or 2 lines in diameter; the dots (fructification?) change to an orange-colour.

2. *P. rosea*, minute, roundish, fleshy, rose-coloured, containing very minute sporules. Grev. Crypt. Fl. t. 51. Lyngb. p. 207.

HAB. On two or three species of *Parmelia* in Hounter Wood, Manaton. Autumn—Spring.

Varies in size from a pin's head to that of a small pea, with an irregular surface, solitary, or in clusters, very soft and fragile.

## 2. NOSTOC.

1. *N. commune*, frond lobed, plaited, bullate. Agardh Disp. p. 133.—E. B. t. 461. (*Tremella Nostoc*.)

HAB. In pastures, after rain, frequent.

1-3 inches broad, amorphous, dries up very quickly.

2. *N. verrucosum*, frond plicate, smooth, hollow; filaments imbedded in a watery gelatine. Agardh. Syn p. 132.

HAB. Rocks, &c. frequent. In the streams from Dartmoor.

Gregarious, clustered, of various sizes, from a pea to a walnut, surface, under a microscope, warted.

## 3. LINKIA.

1. *L. atra*, hemispherical, solitary, hard, blackish-green; filaments simple, acuminate, jagged at the ends. Lyngbye Hydr. Dan. p. 195.—Agardh. Disp. p. 48. (*Chætophora atra*.) E. B. t. 1798. (*Rivularia atra*.)

HAB. On marine rocks, appearing like small black dots on their surface.

## 4. CODIUM.

1. *C. bursa*, a spherical hollow mass. Agardh. Disp. p. 24.—Turn. Hist. Fuc. t. 36. E. B. t. 2183. (*Fucus bursa*.)

HAB. Torquay, Mrs. Griffiths.

2. *C. tomentosum*, mass nearly cylindrical, filiform, dichotomous. Ner. Brit. p. 21. t. 7. E. B. t. 717. (*Fucus tomentosus*.)

HAB. On the Southern coast, occasionally.

Stems from a dilated base; branches fastigate, blunt at the ends, colour olive-green.

## 5. CHÆTOPHORA.

1. *C. marina*, a hollow, globose, olive-green mass, with dichotomously branched filaments, densely arranged in the substance, whose fastigate branches are clavate at the apex. Grev. Crypt. Fl. t. 53.—Agardh. Disp. p. 45. (*Nostoc marinum*.) E. B. t. 1956. (*Rivularia tuberiformis*.) Huds. Fl. Ang. vol. ii. p. 565. (*Tremella difformis*.)

HAB. In the sea, attached to rocks or marine plants, near Seaton. ☉

It is gregarious, very variable in size, smooth and slippery.

2. *C. rubra*, mass cylindrical, filiform, forked; the filaments



branched, jointed, red. Agardh. Disp. p. 42.—E. B. t. 1627.  
(*Ulva rubra*.) Lyngbye Hydr. Dan. (*Chordaria multifida*.)

HAB. Marine rocks, occasionally. Torbay. About Plymouth. Summer. ☉

Mass crowded, 3-6 inches long, from a callous base.

## DIV. 2. CONFERVOIDEÆ.

### 6. DRAPARNALDIA.

1. *D. glomerata*, branchlets ovate, obtuse, spreading. Lyngb. p. 189. Agardh. Disp. p. 41.—E. B. t. 1740. (*Conf. mutabilis*.)

HAB. In clear streams and ditches, frequent, attached to aquatic plants, stones, &c. Spring, Summer.

In tufts of 3 or 4 inches, of a bright-green; main branches with pellucid articulations; adheres closely to paper.

2. *D. plumosa*, branchlets lanceolate, acute, erect. Agardh. Syn. p. 124. and Disp. p. 42.—Dillwyn, t. 12. (*Conferva mutabilis*.)

HAB. In the same situations as the last species.

### 7. ZYGNEMA.

(*Conjugata* of Vaucher.)

1. *Z. bipunctatum*, articulations varying in length, with 2 distinct roundish masses of granules. Lyngbye, p. 174.—E. B. t. 1610. and Dillw. t. 2. (*Conf. bipunctata*.)

HAB. Ditches and ponds, occasionally. Hsington. April.

Floating on the surface, in entangled yellowish-green masses.

2. *Z. decimum*, articulations length nearly thrice that of the breadth; spiral lines 2 crossing each other. Agardh. Syn. p. 99.—Dillw. t. 4 and 5. (*Conf. nitida* and *jugalis*.) E. B. t. 2337. (*C. nitida*.)

HAB. In stagnant ponds, occasionally. Summer.

In large bright-green masses; the lines of granules form repeatedly the Roman X, and at length unite in one.

3. *Z. quinimum*, articulations length thrice that of the breadth; spiral lines simple. Agardh. Syn. p. 100.—Dillw. t. 3. E. B. t. 1656. (*Conf. spiralis*.)

HAB. In ditches and ponds, frequent. Hsington. Ashburton. Canon-teign, &c. Summer.

Green, floating on the surface in large slippery masses; the spiral line of granules forms repeatedly the Roman letter V.

4. *Z. inflatum*, articulations twice or three times as long as broad, swelling here and there; spiral lines simple. Agardh. Syn. p. 101.—E. B. t. 2379. (*Conf. inflata*.)

HAB. In bogs, occasionally. Bogs on Hightor Down. Swamp in Bagtor Wood near Ilington. Spring, Summer.

## 8. CONFERVA.

### a. Simple.

1. *C. ericetorum*, filaments matted together, purplish, articulations of greater length than breadth. Agardh. Syn. p. 76. Dillw. t. 1. E. B. t. 1553.

HAB. On the ground in moist heathy situations, occasionally in water; Bovey Heathfield.

Forming a thin, purple or brownish coating on the naked soil.

2. *C. capillaris*, filaments dark-green, long, flexuose, tangled, articulations longer than broad, alternately compressed. Agardh. Syn. p. 81. and E. B. t. 2364.—Dillw. p. 46. (*C. crispa*.)

HAB. Ditches and pools near the sea; when dry it is rigid and brittle.

3. *C. rivularis*, filaments shining-green, long, slender, equal, joints pellucid, articulations twice as long as broad. Agardh. Syn. p. 87. E. B. t. 1654. Dillw. t. 39.

HAB. Slow streams, frequent.

4. *C. fucicola*, filaments yellowish-brown, short, straight, tufted, articulations twice as long as broad. Dillw. t. 68. With. Bot. Arr. vol. iv. p. 136.

HAB. Parasitic on Fuci. Torbay. Summer.

### b. Branched.

#### τ. Not aquatic.

5. *C. velutina*, filaments green, rooting; branches flexuose, erect, subpellucid. Agardh. Syn. p. 94. Dillw. t. 77. E. B. t. 1556. Fl. Edin. p. 319.

HAB. Moist shady banks, frequent through the year.

It spreads over the ground in a beautiful green velvet-like manner. Dr. Greville considers it an incipient moss.

6. *C. orthotrichi*, parasitic; filaments brown, minute, short, erect, obtuse, tufted; articulations of equal length and breadth. Dillw. t. 89.—E. B. t. 1638. (*C. musicola*.)

HAB. Parasitic on the genus *Orthotrichum*, of very frequent occurrence. Summer.

A line or two long, in compact tufts amongst the leaves.

7. *C. ebenea*, filaments black, erect, short, rigid, broadly tufted, branches diverging; articulations obscure, of equal length and breadth. Dillw. t. 100. E. B. t. 702.—With. Bot. Arr. vol. iv. p. 144. (*Byssus nigra*.)

HAB. Rocks and trees, frequent through the year.

Forming black velvet-like tufts, 2 or 3 lines high.

τ τ. Aquatic, or marine.

8. *C. fracta*, rigid, fragile, much branched, entangled, branches divaricated; articulations 3 or 4 times as long as broad. Agardh. Syn. p. 88. Dillw. t. 14. E. B. t. 2338.

HAB. Ditches and ponds, frequent. Spring, Summer.

Floats in large yellowish or dirty-green masses on the surface.

9. *C. glomerata*, branched alternately; branchlets fascicled, subsecund; articulations 4 or 5 times as long as broad. Dillw. t. 13. E. B. t. 2192. (and *C. late virens*. Dillw. t. 48. E. B. t. 1854.)

HAB. Ditches and ponds, frequent, and on the sea-coast. Summer.

It has a very elegant and lightly tufted appearance, and is of a yellowish-green colour.

10. *C. rupestris*, much branched, clustered, straight, obtuse; branches erect; joints pellucid; articulations three times as long as broad. Dillw. t. 23. With. Bot. Arr. vol. iv. p. 140. E. B. t. 1699.

HAB. Rocks, stones, &c. on the sea-coast, common. Summer.

It grows in dense tufts, 4 or 5 inches long, and is dark-green and rigid, frequently with a glaucous tinge.

11. *C. pellucida*, much branched, stiff; branches mostly in threes, blunt; joints 4-6 times as long as broad. E. B. t. 1716.

HAB. Rocks along the coast, frequent. Summer.

Grows in large, green, shining, pellucid tufts, 6 inches long; the threads naked below, repeatedly branched above.

### DIV. 3. ECTOCARPOIDEÆ.

#### 9. ECTOCARPUS.

1. *E. littoralis*, slender, soft, fascicled, much branched, wavy, intricate; branches erect, tubercles globose, sub-sessile. Lyngb. p. 130. t. 42.—Agardh. Syn. p. 65. (*Ceramium littorale*.) E. B. t. 2290. and Dillw. t. 31. (*Conf. littoralis*.)

HAB. Common on the coast, attached to rocks and fuci. Spring.

Grows in feathery tufts, 6 to 8 inches long, the colour yellowish, reddish, or greenish-brown; the tubercles greenish, occasionally shortly pedunculate; adheres closely to paper.

2. *E. aureus*, orange-coloured, entangled, filaments collected in a dense tuft; branches spreading, rigid; tubercles ovate, sessile. Lyngb. p. 134.—Agardh. Syn. p. 68. (*Ceramium aureum*.) E. B. t. 212. (*Conf. aurea*.) and t. 1639. (*Conf. ilicicola*.) With. Bot. Arr. vol. iv. p. 144. (*Byssus aurea*.)

HAB. Frequent on rocks. At Dartmoor. Hennock. Ilington. Botton Rocks, &c.

3 or 4 lines high, becomes in drying very brittle and greyish.

#### 10. SPHACELLARIA.

1. *S. scoparia*, much branched; branches rigid, fasciculate; ultimate branches subulate, alternate; articulations of equal length and breadth. Lyngb. p. 104. t. 31.—E. B. t. 1552. Dillw. t. 52. (*Conf. scoparia*.)

HAB. Frequent on the coast.

3 to 6 inches high, densely fascicled, dark-brown, rigid when dry; the extremities of the young branchlets are pellucid and sphacellate, containing small orange-coloured granules.

#### 11. CLADOSTEPHUS.

1. *C. verticillatus*, brown, dichotomously branched; branchlets whorled, incurved, simple or forked; articulations of about equal length and breadth. Agardh. Disp. p. 26.—E. B. t. 1718. and Dillw. t. 55. (*Conf. verticillata*.)

HAB. Rocky basins on the coast.

5 or 6 inches long, of a tough horny substance, growing in a tangled manner; the fructification oblong, pedunculated capsules, according to Smith.

2. *C. spongiosus*, dark olive-green, branched; branchlets imbricated, scattered, simple; articulations longer than broad. Agardh. Disp. p. 26.—E. B. t. 2427. and Dillw. t. 42. (*Conf. spongiosa*.)

HAB. Back of Exmouth Warren. Sidmouth, Miss Cutler. Summer.

3 or 4 inches long, branching from a single stem; capsules the same as the former.

#### 12. GRIFFITHSIA.

1. *G. setacea*, crimson, tufted, alternately branched, tapering; articulations four times as long as broad. Agardh. Syn. p. 28.—Dillw. t. 82. E. B. t. 1689. (*Conf. setacea*.)

HAB. Sea-coast, frequent.

Filaments form lax tufts of 4 or 5 inches in length; the smell, when recent, very disagreeable; changing to yellow in decay.

2. *G. equisetifolia*, red, branched; branches with whorled, forked, jointed filaments. Agardh. Syn. p. 28.—Dillw. t. 54. E. B. t. 1479. (*Conf. equisetifolia*.)

HAB. Back of Exmouth Warren. Rev. J. Jervis.

4-6 inches long, dull-red, with a spongy appearance; the fructification unknown.

### 13. CALLITHAMNION.

1. *C. tetricum*, branched; branches triply and alternately pinnate; capsules obovate, sub-sessile. E. B. t. 1915.—Dillw. t. 81. (*Conf. tetrica*.)

HAB. Sidmouth Beach, Miss Cutler.

6 to 8 inches high, of a dull brownish-red; capsules solitary, scattered on the upper branchlets.

### 14. CERAMIUM.

1. *C. elongatum*, much branched; branches elongated; branchlets setaceous; articulations of nearly equal length and breadth. Lyngb. p. 117. t. 36.—Agardh. Syn. p. 54. (*Hutchinsia*.) E. B. t. 2429. Dillw. t. 33. (*Conf. elongata*.)

HAB. Along the coast, frequent. September, October.

Often 12 or 14 inches long, firm, subopaque, dark-red, drying to nearly black; articulations venose, joints opaque; *Lobster-horn Ceramium*.

2. *C. rubrum*, alternately and repeatedly branched; ultimate branchlets forked; articulations pellucid in the centre, the joints contracted. Agardh. Syn. p. 60.—E. B. t. 1166. Dillw. t. 34. (*Conf. rubra*.)

HAB. On the sea-coast, attached to rocks or fuci, or amongst the rejectamenta of the beach, common. Spring—Autumn.

5 or 6 inches or more in length, colour scarlet.

3. *C. diaphanum*, filaments with an alternate series of red and pellucid circles, dichotomous, much branched, ultimate branchlets forcipate. Agardh. Syn. p. 61.—E. B. t. 1742. and Dillw. t. 38. (*Conf. diaphana*.)

HAB. Sidmouth Beach, Miss Cutler. Back of Exmouth Warren. Summer.

A beautifully delicate plant, much smaller than the last, with a diffuse habit.

4. *C. ciliatum*, dichotomous, much branched, the terminating branchlets forcipate, very incurved; joints fringed. Lyngbye Hydr. Dan. p. 121. t. 37.—E. B. t. 2428. Dillw. t. 53. (*Conferva ciliata*.)

HAB. Sidmouth Beach. Den of Teignmouth.

This is still more delicate than the last, probably both are merely young and intermediate states of *C. rubrum*; all have sessile, globose, dark-red



capsules, which are lateral, and surrounded with a setaceous involucre of 3 or 4 leaves.

5. *C. Turneri*, filaments tufted, sub-bi-pinnate; pinnæ and pinnulæ opposite; articulations several times longer than broad: caps. pedicelled, secund. Grev. vol. vi. t. 355. Dillw. Conf. t. 100.

HAB. Near Sidmouth, Mrs. Griffiths.

Fronds  $\frac{1}{4}$  inch long, growing in dense rose-colour tufts on other algæ; branchlets spreading, obtuse; caps. solitary, or 2-4 together on the upper side, with a pellucid limbus.

### 15. POLYSIPHONIA.

1. *P. fastigiata*, dichotomous, nearly equal; articulations broader than long. Agardh. Syn. p. 53. (*Hutchinsia*.) E. B. t. 1764. and Dillw. t. 45. (*Conf. polymorpha*.)

HAB. Sea-coast, frequent, attached to the larger fuci. Summer.

Grows in dense blackish tufts of 3 or 4 inches; under the microscope, it presents a series of interrupted parallel tubes of a purplish-red colour.

2. *P. fucoides*, much branched, diffuse; branchlets subulate, alternate; articulations below shorter, above longer than broad. Agardh. Syn. p. 54. (*Hutchinsia violacea*.) E. B. t. 1743. and Dillw. t. 75. (*C. fucoides*.) Dillw. t. 81. and E. B. t. 1717. (*Conf. nigrescens*.)

HAB. On rocks and stones on the coast, frequent.

From 4-8 inches long, dark-brown, grows in a bushy manner.

3. *P. diffusa*, frond filiform, tubular, branched; branches remote, spreading, tapering at each end; branchlets simple, attenuated, half as long as broad, veined in net-work. (*Ceramium brachygonum* of Lyngbye Hydr. Dan. p. 118. *Fucus diffusus* of Hudson and Stackhouse.)

HAB. Sea-coast, frequent.

4-6 inches, occasionally a foot high, of a firm elastic texture, and red colour; when dry, blackish and stiff.

4. *P. Griffithsiana*, frond filiform, repeatedly branched; branches spreading; branchlets short, simple, awl-shaped, solitary, or clustered; joints as long as broad. Gray Nat. Arr. vol. i. p. 337.—E. B. t. 2312. (*Conferva Griffithsiana*.)

HAB. Shores of Torbay.

3-4 inches high, pale-red, in decay light-green, when dry dark brownish-green; the tubercles on the branchlets sometimes aggregate.

5. *P. byssoides*, frond bi-tripinnate, weak, red; segments and lobes alternate; lobes gradually smaller, many cut, pencil-shaped; lower joints long, upper ones short. Agardh. Syn. p. 60.—E. B. t. 547. Dillw. t. 53. (*Conf. byssoides*.)

HAB. Rejectamenta at Exmouth.

The main thread obscurely jointed, composed of many parallel veins; the branchlets bundled, short, rose-red; the fruit sessile.

#### 16. ASPEROCAULON.

1. *A. coccineum*, scarlet, hairy below; branches alternately doubly pinnate, ultimate ones tufted. Fl. Edin. p. 307.—E. B. t. 1055. Dillw. t. 3. (*Conf. coccinea.*) Lightfoot, p. 966. (*C. plumosa.*)

HAB. Amongst rejectamenta of the beach, frequent. On rocks near Sidmouth and Plymouth. Summer.

#### DIV. 4. ULVOIDEÆ.

#### 17. VAUCHERIA.

1. *V. geminata*, filaments capillary, forked; vesicles in pairs, globose, opposite, on a common peduncle, with an intermediate process. E. B. t. 1766. Agardh. Syn. p. 49.

HAB. Stagnant ditches and ponds. Summer.

Floating in large entangled bright-green masses; filaments 6-12 inches long, straightish.

2. *V. ornithocephala*, filaments loosely branched; vesicles mostly in pairs, ovate, obliquely beaked, on a short straight peduncle. Agardh. Syn. p. 49.—Dillw. t. 74. (*Conferva vesicata.*)

HAB. At the bottom of ponds and ditches.

Of a brownish-green colour, in large entangled masses.

3. *V. dichotoma*, filaments ascending, forked with long branches; vesicles solitary, sessile, globose. Agardh. Syn. p. 48.—Dillw. t. 15. (*Conf. dichotoma.*)

HAB. Ditches and stagnant ponds. Summer.

The stoutest of the genus, growing in large tangled masses of a very dark colour; filaments 10-12 inches long, with a few branches towards their summits.

4. *V. Dillwynii*, filaments flexuose, branched; vesicles sub-sessile, solitary, globose. Agardh. Syn. p. 50.—Dillw. t. 16. (*Conferva frigida.*)

HAB. On the ground in damp shady situations through the year.

Dark-green, spreading in a thin dense mass on the surface; filaments  $\frac{1}{4}$ -1 inch long, irregularly branched.

#### 18. OSCILLATORIA.

r. Growing in fresh water; lying in a mucus.

1. *O. limosa*, filaments simple, greenish-blue, lying in a compact blackish-green mass, and spreading into long rigid

rays round the circumference. Lyngb. p. 86. Agardh. Syn. p. 104.—Dillw. t. 64. (*Conf. fontinalis*.)

HAB. In slow streams, not unfrequent, floating in masses on the surface.

2. *O. ochracea*, filaments simple, greenish, lying in a tender, fragile, ochraceous mass. Lyngb. p. 89. t. 26.—Dillw. t. 62. (*Conf. ochracea*.)

HAB. In ditches and bogs, frequent.

In large ochrey masses, separating with the least agitation; the filaments exceedingly fine and curved.

TT. Not aquatic, nor lying in a mucus.

3. *O. muralis*, filaments curved, flexuose, in a green entangled mass. Agardh. Syn. p. 108.—Dillw. t. 7. and E. B. t. 1554. (*Conf. muralis*.)

HAB. Damp walls, shady walks, and other similar situations, common.

#### 19. SCYTONEMA.

1. *Sc. comoides*, filaments loosely tufted, flaccid, reddish-brown, irregularly branched; branches attenuated, sub-acute; granules oblong, geminate. Agardh. Syn. p. 112.—Grev. Crypt. Fl. vol. vi. t. 358. (*Monema comoides*.) Dillw. t. 27. and E. B. 1700. (*Conferva comoides*.)

HAB. Frequent on rocks and stones, &c. on the coast.

#### 20. BANGIA.

1. *B. atrovirens*, greenish-black branched tufts; branches tapering each way, granules arranged in nearly equidistant circles. Lyngb. p. 85. t. 25.—Agardh. Syn. p. 115. (*Scytonema*.) Dillw. t. 25. (*Conf. atrovirens*.) Ach. Syn. Lich. p. 329. (*Cornicularia pubescens*.)

HAB. Moist rocks and stones in the granite district.

With decumbent entangled filaments,  $\frac{1}{4}$  to 1 inch long.

#### 21. NODULARIA.

1. *N. fluviatilis*, filaments olive-colour, mostly simple, swelling into joint-like knots at regular intervals. Lyngb. p. 99.—Agardh. Syn. p. 70. (*Lemania*.) E. B. t. 1763. (*Conf. fluviatilis*.)

HAB. In clear rapid streams, frequent. Dart, Teign, Exe, Tamar, &c.

From 3 inches to a foot or more in length, in lax tufts, from a small scutate base; brittle when dry.

#### 22. FISTULARIA.

1. *F. intestinalis*, frond linear, sinuated, wrinkled, simple. Fl. Edin. p. 300.—Lyngb. p. 67. (*Scytosiphon intest.*)

*β. compressa*, mostly branched, compressed. Lyngb. p. 64. t. 15. (*Scytosiphon compressus*.) E. B. t. 1739. (*Ulva compressa*.) and t. 2137. (*U. ramulosa*.)

HAB. Rocks, &c. on the coast, frequent, and in the rivers.

Varies from 6 to 18 inches or more in length, and in breadth from a line to  $\frac{1}{4}$  an inch or an inch; some varieties are irregularly contracted, of a yellowish-green colour, and thin flaccid substance.

2. *F. attenuata*, pale-brown, subcoriaceous, filiform, simple, tapering each way. Agardh. Disp. p. 24.—E. B. t. 642. (*Ulva fistulosa*.)

HAB. Sea-coast, not unfrequent. Summer. ☉

Grows in an upright clustered manner to the height of 4 or 5 inches, or more.

### 23. ULVA.

#### τ. Frond coriaceous.

1. *U. edulis*, frond plane, sub-simple, cuneiform, quite entire, the apex rounded. (solitary sporules scattered over the frond.) Lyngb. p. 26.—Agardh. Syn. p. 35. (*Halymenia edulis*.) Turn. Hist. t. 114. and E. B. t. 1307. (*Fucus edulis*.)

HAB. Near Torquay, Dr. Greville. Sidmouth, Miss Cutler. Autumn. ♀

4 to 6 or 8 inches high; brownish-purple, tough; this and the following are edible.

2. *U. palmata*, frond plane, nerveless, palmated, margins entire, segments oblong, sub-simple, (sporules scattered over the frond in wide irregular spots.) Lyngb. p. 24.—Agardh. Syn. p. 35. (*Halymenia palmata*.) E. B. t. 1307. and Turn. Hist. t. 114. (*Fucus palmatus*.)

HAB. Frequent along the coast. Winter. ♀

From 4 to 10 or 12 inches long, purplish-red, thinner and more transparent than the last. This is the Scotch *Dulse*, and the *Saccharine Fucus* of the Icelanders, whose cattle are said to be very fond of it.

#### ττ. Frond membranaceous.

3. *U. lactuca*, fronds pellucid, green, distinct, narrow at the base, dilated and laciniated above. Agardh. Syn. p. 40. E. B. t. 1551.

HAB. Sea-coast, attached to rocks, &c.; frequently washed up at the entrances of rivers. ☉

Of a thin membranous substance, varying much in size, growing in a clustered manner, and frequently proliferous; occasionally used at table as the *Green Laver* or *Oyster Green*.

4. *U. bullosa*, frond green, lubricous, subgelatinous, variously sinuated and folded. Agardh. Syn. p. 41. E. B. t. 2320.

HAB. Fresh water ponds and ditches, frequent. Ilington, Ashburton, Topsham, Lympstone, &c.

Very tender, and adhering firmly to paper, probably a var. of the last.

5. *U. umbilicalis*, brownish-purple, sub-orbicular, sessile, plicate. Agardh. Syn. p. 41. E. B. t. 2286. Lyngb. p. 28.

β. *elongata*, frond elongated, margin waved. Agardh. Syn. p. 42. Lyngb. p. 29.

HAB. Torquay, Babbicombe, Sidmouth. Autumn. ☉

The surface is smooth and shining, 8 or 10 inches over, attached by its central root to the rocks. This is the true *Laver*.

6. *U. membranacea*, frond dichotomous, linear, membranaceous, pellucid, greenish-brown; the midrib slightly prominent, and here and there proliferous; margin entire. E. B. t. 1758. and Ner. Brit. p. 13. (*Fucus membranaceus*.) Gray Nat. Arr. vol. i. p. 342. (*Dictyopteris elongata*.)

HAB. On the rocks at Sidmouth, Mr. Stackhouse.

The stem is proliferous and cartilaginous; the frond has a thin linear expansion, through which the fructification is dispersed in regularly arranged clusters.

7. *U. Linza*, green, linear, lanceolate, with a waved and crisped margin. Agardh. Syn. p. 40.

HAB. Rocks near Exmouth and Sidmouth. Summer. ☉

About 9 or 10 inches long and 1 broad, very thin and transparent, attenuated into a short subcylindrical stipes at the base.

#### 24. ZONARIA.

1. *Z. pavonia*, frond flabelliform, mostly lobed, brownish-green, smeared with white; fructification in transverse, arched, concentric lines. Agardh. Disp. p. 20.—E. B. t. 1276. (*Ulva pavonia*.)

HAB. Rocky basins at Sidmouth, Exmouth, Torquay, &c.

2. *Z. parvula*, frond olivaceous, sub-orbicular, plane, membranaceous, deeply lobed; lobes rounded, subimbricate, scarcely zoned. Grev. Crypt. Fl. t. 360.

HAB. In the sea, attached to sand-stone rocks, near Sidmouth. March.

Plant composed of many rounded or reniform lobes, which are frequently imbricated; 1 or 2 inches in breadth, closely attached to the rocks; the surface lubricous; no fructification has hitherto been discovered.

3. *Z. atomaria*, olive-brown, flabelliform, with linear, slightly branched segments; fructification disposed in dark, irregular, transverse, concentric stripes. Agardh. Syn. p. 20.—E. B. t. 419. (*Ulva atomaria*.)

HAB. Near Torquay, Dr. Greville. Sidmouth, Miss Cutler. Autumn.

The segments are often fringed with minute teeth, 2-6 inches in length, and



about the same in breadth; dilated from the base, and cleft half way down into obtuse segments.

4. *Z. dichotoma*, pale-green, linear, obtuse, repeatedly dichotomous; fructification in longitudinal interrupted dots. Agardh. Disp. p. 22.—E. B. t. 774. (*Ulva dichotoma*.) Gray Nat. Arr. vol. i. p. 141. (*Dictyota dichotoma*.)

HAB. Sidmouth, Exmouth, Torquay, &c. Summer. ☉

2-6 inches long, thin texture, much branched, branches from 1-3 lines in breadth.

#### DIV. 5. FLORIDEÆ.

##### 25. PTILOTA.

1. *Pt. plumosa*, frond compressed, irregularly branched, branches repeatedly pinnated, ramuli opposite, (seeds naked, surrounded by the quadrifid ends of the ramuli.) Agardh. Syn. p. 39.—E. B. t. 1308. Ner. Brit. p. 105. Turn. Hist. Fuc. t. 60. and Syn. B. F. p. 296. (*Fucus pl.*)

HAB. Sidmouth, Exmouth, &c. frequent. June—October. ☿

From 3 to 6 or 8 inches, of a dull-red colour.

##### 26. ODONTHALIA.

1. *O. dentata*. Lyngb. p. 9. t. 3.—Agardh. Syn. p. 22. (*Sphærococcus dentatus*.) Ner. Brit. p. 95. t. 15. E. B. t. 1241. Turn. Syn. B. F. p. 149. and Hist. Fuc. t. 13. (*Fucus dentatus*.)

HAB. Submarine rocks on the coast. Withering. Spring. ♂ ?

From 5 to 12 inches high, thin, tender, diaphanous, dull brownish-red.

##### 27. SPHÆROCOCCUS.

1. *S. rubens*, frond submembranaceous, dichotomous, proliferous from the surface; branches elliptical, simple and forked; sessile tubercles scattered over the disk. Agardh. Syn. p. 27.—Lyngb. p. 18. (*Chondrus rubens*.) Ner. Brit. App. E. B. t. 1053. Turn. Syn. B. F. p. 216. and Hist. Fuc. t. 42. (*Fucus rubens*.) With. Bot. Arr. vol. iv. p. 105. (*Fucus prolifer*.)

HAB. Exmouth Warren. Torquay. Winter. ☿

4-6 inches long,  $\frac{1}{2}$  inch wide, has a concatenated appearance, like *Cactus opuntia*, the substance is thin but tough; the colour rose-red, in decay light-brown.

2. *S. crispus*, frond cartilaginous, plane, nerveless, dichotomous, entire, waved, and crisped; branches dilated above; tubercles solitary, scattered, immersed in the substance of the frond, concave on one side, deciduous. Agardh. Syn. p. 24.—Lyngb. p. 15. (*Chondrus crispus*.) Ner. Brit. p. 63. t. 12.

Turn. Hist. Fuc. t. 216 and 217. and Syn. B. F. p. 226. (*Fucus crispus*.) Huds. Fl. Ang. p. 582. (*F. ceranoides*.) Ner. Brit. p. 53. t. 12. and With. vol. iv. p. 99. (*F. stellatus*.) Ner. Brit. p. 50. t. 11. (*F. lucens*.) With. vol. iv. p. 106. (*F. membranifolius*.) Fl. Ang. p. 585. and With. vol. iv. p. 108. (*F. filiformis*.) Linn. Trans. vol. iii. p. 173. (*F. patens*.)

Var.  $\gamma$ . *stellatus*, (Turner,) has branches divided at their apices into very numerous, short, clustered laciniae.

Var.  $\delta$ . *aqualis*, (Turn.) E. B. t. 2285. (*F. crispus*.) has equal linear branches, with their extreme segments obtuse.

HAB. Along the north and south coasts, common. Winter.  $\gamma$

Many fronds spring from a narrow base, but immediately dilate, and at the distance of an inch or two are repeatedly and dichotomously divided, the branches dilate to the summits, which are cleft into many segments, each bifid at the end; it is from 3 to 6 inches high, of a purple-red or brown, changing in decay first to a bright-green, then to a white; it varies much both in form and colour; the habit, when fresh, is much curled; it is never channelled, like the following species, but the fruit is its best and most constant distinction.

3. *S. mamillosus*, frond cartilaginous, channelled on one side, dichotomous, dilating upwards, proliferous from the edges and disk, tubercles roundish, shortly pedunculated, dispersed over the frond. Agardh. Syn. p. 25.—Turn. Hist. Fuc. t. 218. E. B. t. 1054. Turn. Syn. B. F. p. 237. (*Fucus mamillosus*.) With. vol. iv. p. 99. (*F. ceranoides*.) Ner. Brit. p. 65. t. 12. (*F. echinatus*.)

HAB. Beaches in Torbay, Teignmouth, Budleigh, &c. frequent. Fl. through the year.  $\gamma$

From 3-6 inches high, the width variable; differs from the last in the fructification and channelled frond.

4. *S. membranifolius*, stipes cylindrical, branched; summits expanding into a plane, nerveless, dichotomous leaf; tubercles oblong, pedunculated, growing on the stem. Agardh. Syn. p. 26.—Turn. Hist. Fuc. t. 74. E. B. t. 1965. Turn. Syn. p. 25. (*Fucus membranifolius*.)

HAB. Amongst the rejectamenta at Torquay. Fl. Winter.  $\gamma$

4-6 inches; purplish-red; in decay light-green or white; the substance, though thin, almost horny, which affords the most constant mark; in general appearance it resembles *D. palmata*, yet, except in fruit, some of its varieties can scarcely be distinguished from *S. crispus*; one var. has a fimbriated margin.

5. *S. palmata*, stem round, sub-simple, expanding into a multifid, palmate, nerveless leaf; (seeds immersed in the fronds and in tubercles at the end of the segments.) Agardh. Disp. p. 16.—Ner. Brit. p. 102. t. 16. E. B. t. 1120. Turn. Syn. B. F. p. 21. and Hist. Fuc. t. 73. (*Fucus*.)

HAB. Exmouth Warren. Sidmouth, Miss Cutler. Torquay, Dr. Greville.  
Plant 4 to 5 inches high, of a subdiaphanous red colour.

6. *S. asparagoides*, frond filiform, much and irregularly branched; branchlets simple, setaceous, 2-rowed, spreading horizontally, ending alternately in a spherical theca or tubercle. Agardh. Disp. p. 17. Linn. Trans. vol. ii. p. 29.—Lamoureaux, Thal. (*Plocamium*.)

HAB. On the southern coast occasionally. Stackhouse.  
3.6 inches high; pink, or bright-red.

7. *S. reniformis*, frond membranaceous, cartilaginous; branches filiform, segments dilated, reniform or orbicular; tubercles hemispherical, immersed. Agardh. Disp. p. 16.—E. B. t. 2116. and Turn. Hist. Fuc. t. 11. (*Fucus reniformis*.)

HAB. Amongst the rejectamenta in Torbay.

Thallus thin at the base, compressed, irregularly divided; the segments expanding suddenly.

8. *S. ciliatus*, frond submembranaceous, plane, nerveless, pinnately branched, margins and surface ciliated; ciliæ sub-simple, patent, subulate, apices tuberculated. Agardh. Syn. p. 28.—Ner. Brit. p. 90. t. 15. E. B. t. 1069. Turn. Hist. Fuc. t. 70. and Syn. B. F. p. 169. (*Fucus ciliatus*.) With. vol. iv. p. 104. (*F. holosetaceus*.)

VAR. *z. lanceolatus*, frond narrow, linear-lanceolate, with long, branched, compressed ciliæ. With. vol. iv. p. 104. (*F. lanceolatus*.) Ner. Brit. p. 51. t. 11. (*F. jubatus*.)

HAB. Rocks at Ilfracombe. Exmouth Warren.

This species presents a great variety of appearances, and the same plant is often much unlike itself in different stages of growth; its colour is purplish-red; substance remarkably tough; it resembles *L. saccharina* in the property from whence that derives its name.

9. *S. polycarpus*, frond cartilagineo-membranaceous, plane, dichotomously divided; segments sublinear, lacinate at the end, and rather acute; caps. large, immersed, prominent on the surface of the frond. Grev. Crypt. Fl. vol. vi. t. 355.

HAB. In the sea. Under Tait's Hill, near Plymouth, Miss Hill.

Frond about 7 inches long, deep-red at the base, gradually paler upwards, divided from near the base; in structure it resembles *Ulea palmata*.

10. *S. Norvegica*, frond dichotomous, cartilaginous, veinless, the segments linear, entire, obtuse; tubercles hemispherical. Agardh. Disp. p. 15.—Lyngb. Hydr. Dan. p. 16. (*Chondrus Norvegicus*.) E. B. t. 1080. and Turn. Syn. p. 222. (*Fucus Norv.*) Linn. Trans. vol. xvii. p. 131. (*F. crenulatus* β.)

HAB. Rejectamenta, near Seaton.



11. *S. bifidus*, frond plane, membranaceous, dichotomous, dilating; segments patent, obtuse, their margins occasionally uniting, (marginal, scattered, partly immersed tubercles.) Agardh. Disp. p. 16.—E. B. t. 773. Ner. Brit. App. Linn. Trans. vol. iii. p. 159. Turn. Syn. B. F. p. 165. and Hist. Fuc. t. 154. (*Fucus bifidus*.)

HAB. Near Plymouth, and on various other parts of the sea-coast.

From 1-4 inches high; segments 2 or 3 lines wide, a few leaf-like processes spring from the margins, glueing the fronds pretty firmly together; by this peculiarity, it may be recognized under all its varieties; its colour is pale purplish-red.

12. *S. corneus*, frond horny, compressed, irregularly branched; branches bipinnate, tapering each way; pinnæ opposite, patent, obtuse, bearing elliptical capsules on their summits. E. B. t. 1970. Turn. Syn. B. F. p. 272. and Hist. Fuc. t. 257. Ner. Brit. p. 61. t. 12. (*Fucus*.)

HAB. Ilfracombe, Torquay, Babbicombe, Sidmouth.

From 2 to 8 inches; reddish-purple; varying much in form and size.

13. *S. Teedii*, frond membranaceous, flaccid, nearly plane, linear, obscurely bi-tri-pinnatifid, with marginal subulate cap-suliferous ciliæ; caps. solitary. Grev. Crypt. Fl. vol. vi. t. 356.—Turn. Hist. Fuc. t. 208. (*Fucus Teedii*.)

HAB. Lupton Cove, Torbay, growing from the margin of small rocky pools, October, Mrs. Griffiths.

Root minutely scutate; frond dull-pink or red, 3-5 inches long, nearly cylindrical at the base, becoming plane immediately above, attenuated and acute at the end, branched nearly from the base; caps. minute, globose, red, nearly the centre of the ciliæ; allied to *S. corneus*, but more tender and flaccid.

14. *S. ? erectus*, frond cartilaginous, filiform; branches few, erect, sub-simple; caps. sessile, globose. Grev. Crypt. Fl. vol. vi. t. 357.

HAB. Tor Abbey Rocks, Meadfoot, Waldon Rocks, &c. Torbay; and at Sidmouth. February. Mrs. Griffiths.

Fronds dull orange-red, about 2 inches high, a considerable number springing together from a thin, expanded radicular base; fr. in some plants terminal, shortly lanceolate, deciduous pods, of semitransparent substance, containing numerous oblong granules; in others sessile, globose, aggregate capsules the size of turnip-seed, towards the ends of the branches.

## 28. DELESSERIA.

### τ. Frond veined.

1. *D. sanguinea*, stipes round, branched; leaves simple, ovate, oblong, undulate, quite entire, (fructification pedunculated, capsules on the midrib, and scattered seeds in oblong leafy processes.) Agardh. Syn. p. 21.—Turn. Syn. B. F.

and Hist. Fuc. t. 36. E. B. t. 1041. Ner. Brit. p. 20. t. 7. (*Fucus sanguineus*.)

HAB. Along the coast, frequent. Spring. ♂

Root small, thick, solid; leaves of a delicate rose-colour, with more deeply coloured veins, their size from 4 to 6 or 8 inches, their form varies from lanceolate to ovate.

2. *D. sinuosa*, stipes round, branched; leaves oblong, either sinuated or pinnatifid, their margins crenate and ciliated; (fructification scattered tubercles imbedded in the frond, and scattered seeds in the ciliæ. Agardh. Syn. p. 21.—(E. B. t. 822. Turn. Syn. B. F. p. 1. and Hist. Fuc. t. 35. (*Fucus sinuosus*.) Ner. Brit. p. 18. t. 7. (*F. rubens*.)

HAB. On the sea-coast, common. Spring, Summer. ♂

Root fibrous; stipes irregularly branched; branches forming the midribs of the leaves; the sinuated or pinnatifid margins of the leaves often extending into new ones, transparent rose-colour, with darker nerves when fresh, dull-red when dry, in decay yellow tinged green, they are from 2 to 4 inches long.

3. *D. alata*, frond midribbed, linear, subdichotomous; segments alternately pinnated; (fructification globose, sessile tubercles, and naked, dispersed seeds, both placed either in the apices of the branches or on oblong processes, springing from the midrib.) Agardh. Syn. p. 22.—Ner. Brit. p. 79. t. 13. E. B. t. 1837. Turn. Syn. B. F. p. 144. and Hist. Fuc. t. 160. (*Fucus alatus*.)

HAB. On the sea-coast, common. Summer. ♂?

Root an expanded disk; frond 3-6 inches, edges flat and entire throughout, very thin and tender, deep rose-red, with darker veins, changing in decay to yellowish or pale-green.

4. *D. ruscifolia*, frond branched; leaves oblong, ovate, obtuse, plane, entire, proliferous, with simple, parallel, pellucid veins, which have conferva-like joints; (tubercles globose, sessile on the midrib, or seeds disposed in 2 irregular lines on each side the nerve.) Agardh. Disp. p. 14.—Turn. Syn. B. F. p. 11. E. B. t. 1395. Linn. Trans. vol. vi. p. 8. (*Fucus ruscifolius*.)

HAB. Exmouth, Sidmouth, Torbay.

Frond 2-4 inches long, of a deep transparent red-colour, thin and membranous, differs from the next chiefly in being of a more rigid texture, in the series of pellucid veins intersected by joints, and in the darker colour and obtuse leaves.

5. *D. hypoglossum*, frond branched; leaves plane, linear lanceolate, entire, proliferous, with reticulated veins; (globose, sessile tubercles on the midrib, or seeds adhering to the



frond in regular lines.) Turn. Syn. B. F. p. 17. E. B. t. 1396. Ner. Brit. p. 76. t. 13. (*Fucus hypoglossoides*.)

HAB. Sidmouth, Exmouth, Torbay, Plymouth. Summer. ☉

Fronds numerous, 2-4 inches long; whole plant very delicate, transparent rose-colour, changing to yellowish-white in decay; the leaves are composed of pellucid veins, repeatedly anastomosing, and thus forming hexagonal meshes.

6. *D. lacerata*, frond plane, subdichotomous, veined below; branches linear, obtuse, margins waved, lacinulated; (fructification, hemispherical tubercles immersed in the frond, or naked seeds in oblong clusters.) Turn. Hist. Fuc. t. 68. E. B. t. 1067. Turn. Syn. B. F. p. 154. (*Fucus laceratus*.) —With. Bot. Arr. vol. iv. p. 103. (*F. cristatus*.) and also (*F. endivifolius*.) in the same page.

HAB. Exmouth, Torbay, Ilfracombe, not unfrequent. Summer. ☿?

A striking characteristic of this species, is in the dark branching veins, which are not thicker than the frond, and are visible 2 or 3 inches from the base, where they gradually become imperceptible.

7. *D. Hillia*, frond membranaceous, with short veins at the base, irregularly cleft into broad, unequal, erose segments; (sori very numerous, punctiform, scattered over the whole frond.) Grev. Crypt. Fl. vol. vi. t. 351.

HAB. In the sea. Near Plymouth, Miss Hill. Torquay, Mrs. Griffiths. October.

Root minutely scutate; frond sessile, or on a cylindrical stipes, 5-8 inches diameter, with a roundish outline, the substance is softer and thicker than *D. punctata*; caps. hemispherical and sharply umbonate, containing a mass of red, oval sporidia; sori punctiform, on separate plants, occupying the whole frond, and composed of ternate sporidia; probably a var. of the next species.

#### rr. Veinless.

8. *D. ulvoides*, frond plane, membranaceous, nerveless, lobed, lobes flat, obtuse, entire; (tubercles hemispherical, scattered over and immersed in the frond.) Agardh. Disp. p. 14. Hook. Fl. Scot. part 2. p. 101. —Turn. Hist. Fuc. t. 80. E. B. t. 2134. (*Fucus ulvoides*.)

HAB. Noticed in a list published by Dr. Greville in Wern. Trans. as found by Mrs. Griffiths on the coast of Devon.

Plant 3 or 4 inches long, of a rounded form, and red-rose colour, very tender.

9. *D. coccinea*, frond compressed, much branched, ramuli subulate, disposed alternately in series of 3 or 4 each, (spherical sessile capsules, or lanceolate pods.) Agardh. Syn. p. 14. —E. B. t. 1242. Turn. Syn. B. F. p. 291. and Hist. Fuc.

t. 59. Ner. Brit. p. 106. t. frontispiece. (*Fucus coccineus*.)  
Lyngb. Hydr. Dan. p. 39. t. 9. (*Plocamium coccineum*.)

HAB. In rocky basins left by the tide, frequent. Summer and Autumn. 24?

3-9 inches, crimson, changing to greenish-yellow, or white; the root fibrous, the branches slightly flexuose.

10. *D. laciniata*, frond plane, membranaceous, branched; branches dilated upwards, palmate, obtuse, margins plane, crenate, proliferous; (tubercles immersed in marginal processes, or naked seeds scattered over the surface of the frond.) Fl. Edin. p. 294.—Turn. Syn. B. F. p. 161. Hist. Fuc. t. 69. and E. B. t. 1068. (*Fucus laciniatus*.) Linn. Trans. vol. iii. p. 156. (*F. laceratus* γ.) Ner. Brit. p. 92. t. 15. (*F. crispatus*.)

HAB. Frequently thrown up on the beaches. Torbay, Exmouth, Sidmouth, &c.

Frond seldom higher than 3 or 4 inches, and cleft into segments, half an inch or more in width, expanding from the base; it varies much; the most constant distinguishing feature between this and *D. lacerata*, is the want of pellucid veins.

11. *D. glandulosa*, frond membranaceous, linear, compressed, branched; branches decumbent, alternate; branchlets 2-cut, incurved. Agardh. Disp. p. 14.—Turn. Hist. Fuc. t. 33. E. B. t. 2135. (*Fucus glandulosus*.)

HAB. Torbay, Mrs. Griffiths.

1-3 inches long, creeping, variously and repeatedly branched; sporules immersed in the swollen branchlets.

## 29. CHONDRIA.

1. *C. amphibia*, frond much branched; ramuli capillary, alternate, their apices involute; (elliptical lanceolate capsules at the ends of the branchlets, containing the seeds in 2 irregular rows.) Agardh. Disp. p. 18.—E. B. t. 1423. Turn. Hist. Fuc. 101. and Syn. B. F. p. 391. Ner. Brit. p. 86. t. 14. (*Fucus amph.*)

HAB. In the River Dart, Mrs. Griffiths.

Cartilaginous, pale livid-brown when fresh, becoming darker in a dry state. (*Fucus scorpioides* of Gmelin and Hudson.)

2. *C. obtusa*, frond subcartilaginous, cylindrical, repeatedly pinnate; branches mostly opposite; ramuli short, truncate, spreading; (sessile ovate capsules, and naked seeds on the ramuli.) Agardh. Syn. p. 35.—Turn. Hist. Fuc. t. 21. and Syn. B. F. p. 43. E. B. t. 1201. (*Fucus obtusus*.)

HAB. Torquay, Exmouth, Sidmouth. Summer. ☉



4-7 inches, pink or yellowish, the colour fugitive, emitting sometimes a violet-like scent.

3. *C. pinnatifida*, frond compressed, cartilaginous, branched; branches mostly alternate, doubly pinnatifid; ramuli obtuse, callous, (bearing ovate, sessile capsules, and naked seeds.) Agardh. Syn. p. 35.—Lyngb. p. 40. (*Gelidium pinnatifidum*.) Turn. Hist. Fuc. t. 20. and Syn. B. F. p. 267. E. B. t. 1202. Ner. Brit. p. 48. t. 11. (*Fucus pinn.*)

β. *osmunda*, frond flat, mostly undivided, ramuli short, multifid. Ner. Brit. p. 47. t. 11.

HAB. Rocks near Exmouth, Sidmouth, Torquay, &c. Summer. ☉

From 3-8 inches, reddish-purple, called *Pepper Dulse* from its pungent flavour.

4. *C. ovalis*, frond roundish, subgelatinous, dichotomous, naked below, above clothed with elliptical, entire, fleshy ramuli, imbricated on all sides, (bearing naked, scattered seeds, and sessile, hemispherical tubercles.) Agardh. Disp. p. 18.—E. B. t. 711. Turn. Hist. Fuc. t. 81. and Syn. B. F. p. 30. (*Fucus*.) Ner. Brit. p. 67. (*F. sedoides*.)

HAB. Torquay, Exmouth Warren, Ilfracombe.

3-7 inches; reddish-brown or purple, with oval, fleshy leaves.

5. *C. dasyphylla*, frond cylindrical, branched in an irregular, pinnated manner; branches sub-simple, spreading; ramuli cylindrical, scattered, attenuated at the base, prolific, (ovate sessile capsules and naked seeds on the ramuli.) Agardh. Disp. p. 18.—E. B. t. 847. Turn. Hist. Fuc. t. 22. and Syn. B. F. p. 88. (*Fucus*.)

HAB. Torquay, Mrs. Griffiths. Bot. Guide.

From 3-6 inches high, pale reddish-brown.

6. *C. kaliformis*, frond subgelatinous, tubular, much and irregularly branched; branches and ramuli mostly verticillate, jointly contracted, (sessile tubercles and scattered seeds on the ramuli.) Agardh. Disp. p. 18.—Lyngb. p. 70. (*Gastri-dium kaliforme*.) Turn. Hist. Fuc. t. 29. and Syn. B. F. p. 377. With. vol. iv. p. 89. (*Fucus kalif.*) With. p. 90. (*Fucus verticillatus*.)

HAB. Torbay, Mount Edgecombe, Dawlish, Exmouth, frequent.

From 5-12 or more inches long, of a fine pink, but the colour is very fugitive.

7. *C. opuntia*, frond subcylindrical, solid, contracted at intervals, branched; branches horizontal, acuminate; joints lanceolate, obsolete, (minute scattered globular tubercles.)

Turn. Hist. Fuc. t. 107. and Syn. B. F. 387. (*F. opuntia*.) Ner. Brit. p. 104. With. vol. iv. p. 91. Light. p. 961. (*F. repens*.) Ner. Brit. p. 59. t. 12. (*F. cæspitosus*.) E. B. t. 1868. (*Rivularia opuntia*.) Huds. Fl. Ang. p. 569. (*Ulva articulata* β.)

HAB. Ilfracombe, Torquay, &c. not unfrequent on both coasts.

Frond pale-purplish, tender, subdiaphanous; tubercles black. Spring—Autumn. 2

8. *C. articulata*, frond filiform, tubular, branched, jointedly contracted throughout; branches equal, whorled, dichotomous, (sessile, urceolate tubercles, and scattered seeds on the ramuli.) Turn. Hist. Fuc. t. 106. and Syn. B. F. p. 383. E. B. t. 1574. Ner. Brit. p. 28. t. 8. With. vol. iv. p. 90. (*Fucus art.*)

HAB. Frequent along the coast. Summer. ☉

From 3 to 4 inches, (its most frequent size,) to a foot in length; of a pink colour, and somewhat transparent and gelatinous substance.

9. *C. pusilla*, filiform, flat, contracted at intervals, much and irregularly branched; ramuli horizontal, base attenuated, apex dilated, rounded, (minute sessile tubercles and scattered seeds on the ramuli.) Grev. Crypt. Fl. t. 79.—Agardh. Disp. p. 17. (*Sphærococcus pusillus*.) Turn. Hist. Fuc. t. 108. and Ner. Brit. p. 16. t. 6. (*Fucus pusillus*.)

HAB. Sidmouth, on the red sand-stone of the coast. Summer. 2

Growing in clustered patches,  $\frac{1}{2}$ -1 inch in length; purplish-pink.

### 30. GIGARTINA.

1. *G. purpurascens*, frond irregularly branched; branches setaceous, scattered, bearing spherical immersed tubercles. Lyngb. Hydr. p. 42.—Agardh. Syn. p. 31. (*Sphærococcus purpurascens*.) E. B. t. 1243. Turn. Hist. Fuc. t. 9. and Syn. B. F. p. 357. (*Fucus*.)

HAB. On the coast, frequent. Summer. ☉

From 9-12 inches or more, purplish, subdiaphanous, tinged with green in decay; tubercles crimson, many on the same branch, but distinct.

2. *G. plicata*, frond horny, dichotomous, of equal size throughout; branches entangled, sub-simple, apices obtuse; (irregularly hemispherical, sessile, wart-like tubercles.) Lyngb. p. 42.—Agardh. Syn. p. 34. (*Sphærococcus plicatus*.) Turn. Hist. Fuc. t. 180. and Syn. B. F. p. 323. E. B. t. 1089. Ner. Brit. p. 23. t. 7. (*Fucus plicatus*.)

HAB. Ilfracombe, Sidmouth, Exmouth, Plymouth; frequent, along the coast. Fl. Winter. 2



4-12 inches or more long, with a small callous disk and wiry intricate branches; dark-brown, red or purple, changing in decay to yellowish-white.

3. *G. Griffithsia*, frond cartilaginous, filiform, forked, level-topped; tubercles lateral, oblong, embracing the frond. Lyngb. Hydr. Dan. p. 43.—E. B. t. 1926. (*Fucus Griffithsia*.)

HAB. Rocks at Exmouth, Miss Filmore. Chit Rock, Sidmouth, Mrs. Griffiths. Rocks left by the tide at Tor Abbey, Dr. Greville. October—December.

2-3 inches high, purplish; tubercles composed of horizontally radiating jointed tubes.

4. *G. capillaris*, frond subgelatinous, filiform, much and irregularly branched; branchlets setaceous; tubercles solitary, imbedded in the branchlets. Lamoureux Thal. p. 48.—Agardh. Disp. p. 18. (*Sphærococcus*.) E. B. t. 2191. (*Fucus capillaris*.)

HAB. On the southern coast, occasionally.

6-8 inches long, pink or crimson.

5. *G. pinastroides*, frond filiform; branches numerous; branchlets simple, awl-shaped, closely tiled, pointing one way. Lyngb. Hydr. p. 45.—Agardh. Disp. p. 25. (*Rytiphæa pinastr.*) E. B. t. 1042. Turn. Hist. Fuc. t. 11. (*Fucus*.) Fl. Ang. p. 590. (*Fucus incurvus*.)

HAB. Budleigh, Exmouth, Torbay, frequent.

3-6 inches high; fruc. either in catkin-shaped vessels rolled in at the tips, with 1 or 2 rows of imbedded seeds, or, in some instances, a short branched tuft of granules.

9. *G. tenuissima*, frond gelatinous, filiform, pinnately branched; branches alternate, spreading, sub-simple; branchlets simple, scattered. Agardh. Disp. p. 18. E. B. t. 1682. (*Fucus*.) *Gastroidium* of Lyngbye—*Ulva capillaris* of Hudson.

HAB. Torquay, Mrs. Griffiths.

6-10 inches long; pale flesh-colour or purplish.

## DIV. 6. FUCOIDEÆ.

### 31. CHORDARIA.

1. *C. flagelliformis*, frond filiform, slimy, branched; branches long, sub-simple, distichous, truncated, unarmed. Agardh. Disp. p. 12.—E. B. t. 1222. Turn. Syn. B. F. p. 335. and Hist. Fuc. 85. (*Fucus fl.*)

HAB. Sea-coast, not unfrequent. Sidmouth, Miss Cutler. Near Plymouth. Summer. ☉

6 inches to 2 feet long, of a very slender habit, and dark cartilaginous slimy



frond ; the fructification placed among the diverging filaments, of which the plant is composed.

### 32. SCYTOSIPHON.

1. *S. filum*, frond filiform, tapering each way, internally jointed, slimy. Agardh. Syn. p. 13.—Ner. Brit. p. 40. t. 10. E. B. t. 2487. Turn. Syn. B. F. p. 338. and Hist. Fuc. p. 86. (*Fucus*.)

HAB. Along the coast, common. Summer. ☉

Greenish-olive, bleaching by exposure on the beach to light straw-colour ; it often reaches to the length of 17 or 18 feet ; in a fresh state, the frond is elastic and pellucid, when dry spirally twisted and brittle ; the internal partitions are at unequal distances. The barren plants often covered with conferva-like filaments.

### 33. SPOROCHNUS.

1. *S. pedunculatus*, fronds filiform, branched in a pinnate manner ; branches simple, capillary, distichous ; tubercles scattered, obovate, pedunculated. Agardh. Disp. p. 12.—Ner. Brit. p. 110. t. 16. Turn. Syn. B. F. p. 367. and Hist. Fuc. p. 188. (*Fucus pedunculatus*.)

HAB. Torquay, Mrs. Griffiths. Near Seaton.

The habit readily distinguishes this plant when not in fruit ; in general it is found with numerous tubercles, arranged alternately in twos and threes along the branches ; small green tufts (probably parasitical confervæ) are often found terminating the branches.

2. *S. aculeatus*, frond compressed, much branched ; branches repeatedly divided in a pinnate manner, beset with alternate awl-shaped spines. Agardh. Syn. p. 10.—Ner. Brit. p. 24. t. 8. E. B. t. 2445. Turn. Syn. B. F. p. 262. and Hist. Fuc. p. 187. (*Fucus*.) Lyngbye Hydr. Dan. p. 34. (*Desmia aculeata*.)

HAB. On the sea beaches, frequent. Spring—Summer.

1.3 feet in length, olive-brown when dry. We have never been fortunate enough to find fructified specimens. Stackhouse says, the fructification consists of an irregular echinated, wart-like excrescence, expanding when ripe, and exposing a granulated yellow surface ; but his figure is by no means satisfactory. Gray, (Nat. Arr. vol. i. p. 387, *Desmaristia aculeata*,) describes the fructification as being “sporidia along with jointed threads from the serrated edges of the twigs.” It grows in deep water.

3. *S. viridis*, frond filiform, repeatedly pinnated ; branches and branchlets capillary, opposite. Agardh. Syn. p. 14.—Ner. Brit. p. 111. t. 17. E. B. t. 1669. Turn. Syn. B. F. p. 397. and Hist. Fuc. p. 97. (*Fucus*.) Lyngb. Hydr. Dan. p. 44. (*Gigartina viridis*.)

HAB. Torquay, Mrs. Griffiths. Summer. ☉

It varies from 8 or 9 inches to 3 feet in length ; the frond at the base is scarcely larger than packthread, and tapers gradually to the summit, with

long branches throughout; its colour, when fresh, is a fine orange, but a few minutes' exposure to the air changes it to a green, and ultimately it becomes a reddish-brown; fructification, according to Lyngbye, hemispherical tubercles; it grows in deep water.

4. *S. ligulatus*, frond plane, linear, doubly pinnate; segments linear-lanceolate, with spinous teeth along the ultimate margins. Agardh. Sp. Alg. p. 158.—E. B. t. 1636. Ner. Brit. App. Turn. Syn. B. F. p. 99. (*Fucus*.) Lyngb. Hydr. Dan. p. 34. (*Desmia ligulata*.)

HAB. Growing in deep water, and thrown on the coast occasionally, rare. Torbay, Mrs. Griffiths. Summer. ☉

From 6 inches to 2 or 3 feet; when fresh, the colour is orange-brown, but fugitive, ultimately bleaching white. In its mode of ramification it most resembles *Sphærococcus corneus*; in habit, substance, and colour as lying on the beach, the last species.

### 34. SPONGIOCARPUS.

1. *S. rotundus*. Fl. Edin. p. 286. Agardh. Syn. p. 12. (*Chordaria*.) E. B. t. 1738. Turn. Syn. B. F. p. 309. and Hist. Fuc. p. 5. (*Fucus*.) Ner. Brit. p. 89. t. 14. Linn. Trans. vol. iii. p. 202. (*Fucus radiatus*.) Lyngb. Hydr. Dan. p. 49. (*Furcellaria rotunda*.)

HAB. Sea-coast, not unfrequent. Torquay. Ilfracombe.

4-9 inches long, with a dark-brown cartilaginous frond. When not in fruit, it may be distinguished from *Furcellaria lumbricalis* by the root, which is a callous disk, and the forkings of the branches being much less acute.

### 35. FURCELLARIA.

1. *F. lumbricalis*. Agardh. Syn. p. 10. E. B. t. 824. Turn. Syn. B. F. p. 317. and Hist. Fuc. p. 6. Ner. Brit. p. 15. t. 6. The larger figure, (*Fucus lumbricalis*.)

Var.  $\beta$ . *fastigiata*, apices short, compressed, acute. With. Arr. vol. iv. p. 110. Fl. Scot. part ii. p. 97.

HAB. On the sea-coast, frequent. Winter. ☿

The usual length from 6-12 inches; frond cartilaginous, purplish or olive-brown; the fructification in the swollen ends of the branches.

### 36. LICHINA.

1. *L. pygmæa*, frond compressed, nerveless, dilated and palmate above; tubercles round, sessile, terminal. Agardh. Syn. p. 9.—E. B. t. 1332. Ner. Brit. App. Turn. Syn. B. F. p. 258. and Hist. Fuc. t. 204. fig. a—h. (*Fucus pygmæus*.) Lyngb. Hydr. Dan. p. 41. (*Gelidium pygmæum*.)

$\beta$ . *minor*, frond subcylindrical. Agardh. Syn. p. 10. Turn. Hist. Fuc. F. *pygmæus*.  $\beta$ . E. B. t. 2575. (*Lichen confinis*.) Ach. Meth. Lich. vol. ii. p. 317. (*Stereocaulon confine*.)



HAB. Frequent on rocks left by the tide. Near Babbicombe, Dr. Greville.  
About Sidmouth, Miss Cutler. Exmouth. Ilfracombe. Summer. 2  
From  $\frac{1}{4}$  to  $\frac{1}{2}$  inch high, growing in black crowded patches, with a licheniform habit.

## 37. CYSTOSEIRA.

1. *C. granulata*, frond cylindrical, much branched; branches filiform, spinous; vesicles innate, ovate, disposed in a moniliform manner; tubercles collected in linear mucronate receptacles. Turn. Syn. B. F. p. 73. and Hist. Fuc. t. 251. (*Fucus*.) E. B. t. 2169. (*Fucus*.) Ner. Brit. the last page. (*F. fœniculaceus*.)

HAB. Near Exmouth. Rocks near Tor Abbey. Near Plymouth.

2. *C. abrotanifolia*, frond filiform, compressed, bipinnate, branches filiform, alternately forked, spreading, margin entire; vesicles innate; tubercles terminal, many-cleft. E. B. t. 2130. Turn. Hist. Fuc. t. 252. (*Fucus*.)

$\beta$ . *discors*, frond round, lower branches winged, serrated.

HAB. Torbay.

12-18 inches long, rough at the base. The var.  $\beta$ . is the young state, according to Mrs. Griffiths.

3. *C. fibrosa*, frond compressed, woody at the base; branches distichous, long, variously divided, upper ones with setaceous branchlets, lower ones naked; vesicles innate; tubercles cylindrical. E. B. t. 1969. Ner. Brit. 80. t. 14. Turn. Hist. Fuc. t. 209. (*Fucus*.)

HAB. Torquay. Babbicombe. Ilfracombe.

1-3 feet in length, stem and branches tapering upwards, the latter gradually shorter towards the top, so that the plant has a pyramidal form, as in the last species.

4. *C. ericoides*, frond roundish, with bulbous swellings at the base; branches numerous, long, variously divided; branchlets cylindrical, setaceous, imbricate, spreading; vesicles roundish. E. B. t. 1968. Turn. Hist. Fuc. p. 191. (*C. tamariscifolius* of Stack. Ner. Brit. p. 44. t. 11. and Huds. Fl. Ang. p. 576.)

HAB. Near Torquay. Frequent on the southern coast.

6-12 inches, branching immediately above the base, varies much in its different stages; in the full-grown plant the upper branches are thickest, and almost tiled with short spinous branchlets, which are occasionally bifid; in younger plants the branchlets are more thinly set, and many of the young branches leafless, flat, and lanceolate; assumes beautiful changeable tints, in a growing state, of a blueish-green.

5. *C. siliquosa*, stem compressed; branches distichous,

alternate; vesicles stalked, oblong, beaked, jointed, arranged in an alternately distichous manner, on the stem and branches. Agardh. Sp. Alg. p. 71.—Lyngb. Hydr. Dan. p. 37. (*Halidrys siliquosa*.) E. B. t. 474. Ner. Brit. p. 8. t. 5. Turn. Syn. B. F. p. 60. and Hist. Fuc. t. 159.

Var.  $\beta$ . smaller. *F. siliculosus*, Ner. Brit. p. 42. t. 11.

HAB. On the sea-coast, frequent. Winter. 2.

From 8 to 9 inches in length, (which the var.  $\beta$ . seldom exceeds,) to 3 or 4 feet, commencing from flat, linear, mid-ribbed leaves, ultimately thickening into compressed solid stems and branches; the seeds are contained in shortly pedunculated siliquæ, 2 or 3 of which are usually found at the end of the branches, the larger vesicles merely serving as air-bladders to float the plant, and rarely contain the seed.

The chief char. of the genus *Cystoseira* is the cellular recept.

### 38. FUCUS.

1. *F. natans*, stem compressed, filiform, alternately bipinnate; leaves oblong, lanceolate, serrate; vesicles globose, on flat stalks. E. B. t. 2114. Turn. Syn. B. F. p. 98. and Hist. Fuc. t. 45.

HAB. Thrown occasionally on the beaches.

The leaves are variable both in shape and size; the fruit consists of axillary black pods, 2 or 3 lines long and paniced. The whole plant soft and flexible, its colour reddish-brown.

2. *F. bacciferus*, stem round, filiform, rigid, alternately bipinnate; leaves linear, serrated; vesicles globose, on cylindrical stalks. E. B. t. 1967. Turn. Syn. B. F. p. 55. and Hist. Fuc. 27.

HAB. Thrown occasionally on the beaches.

This species has a curled, rigid habit; the leaves are subcoriaceous and without dots. It was first separated from *F. natans* as a distinct species by Mr. D. Turner; both species are known to sailors by the common appellation of *Gulf Weed*, and are so abundant in some parts of the ocean, especially within the Tropics, as to impede the progress of vessels.

3. *F. barbatus*, frond cylindrical, unarmed, much branched; branches filiform, flexuose; tubercles oblong, cuspidate, terminal. Ner. Brit. p. 83. t. 14. Turn. Syn. B. F. p. 80. and Hist. Fuc. t. 250. E. B. t. 2170.

HAB. On the coast of Devon, rare. Stackhouse and Hudson.

4. *F. nodosus*, frond compressed, subdichotomous, with innate, solitary vesicles, and obovate, pedunculated, alternately distichous receptacles. E. B. t. 570. Ner. Brit. p. 35. t. 10. Turn. Syn. B. F. p. 252. and Hist. Fuc. t. 91. Lyngb. Hydr. Dan. p. 37. (*Halidrys nodosa*.)



HAB. Along the coast, common. May—October. 24  
From 1-6 feet long, and by far the toughest substance of any of the Fuci.

5. *F. vesiculosus*, frond plane, linear, entire, mid-ribbed, dichotomous, with globose vesicles, irregularly imbedded, and terminal compressed receptacles. E. B. t. 1066. Ner. Brit. p. 3. t. 2. Turn. Syn. B. F. p. 100. and Hist. t. 88.

β. *spiralis*, frond spirally twisted, generally destitute of vesicles, and the receptacles roundish, in terminal hairs. E. B. t. 1685. Ner. Brit. p. 10. t. 5.

γ. *longifructus*, frond mostly without vesicles, receptacles linear-lanceolate. Decandolle Fl. Fr.

δ. *Sherardi*, frond narrow, small, vesicles 0, receptacles short. Ner. Brit. p. 72. t. 13.

*F. distichus*, *inflatus*, and *angustifolius*, of With. Bot. Arr. vol. iv. p. 85, 92, and 93. and *F. volubilis*, and *linearis*, Fl. Ang. p. 578. are also referable to this species.

HAB. Along the coast, common. Spring and Summer. 24

Very variable in habit and mode of growth; the specific distinction rests mainly on the tumid apices of the fructifying shoots, and on the globular air-vessels. This is the species most used in Scotland in manufacturing kelp. For an elaborate account of this marine Proteus, and also its uses and modes of preparation, Turner's Synopsis may be advantageously referred to.

6. *F. serratus*, plane, linear, serrated, mid-ribbed, dichotomous, with terminal, plane, serrated, acute receptacles. E. B. t. 1221. Ner. Brit. p. 1. t. 1. Turn. Syn. B. F. p. 110. and Hist. t. 96.

HAB. Along the coast, common. Spring and Autumn. 24

Distinguished from the last by the serrated fronds, and the absence of vesicles; the receptacles are a continuation of the frond; the sporules are emitted through pores in the tubercles.

6. *F. ceranoides*, plane, linear, entire, mid-ribbed, subdichotomous, with lateral, narrow, multifid branches, terminating in linear, acuminate, subcylindrical receptacles. Ner. Brit. p. 71. t. 13. E. B. t. 2115. Turn. Hist. Fuc. p. 189.

HAB. Near the entrance of the River Dart, Mrs. Griffiths. At the back of Exmouth Warren, Rev. J. Jervis.

This is a rare species, differing from *F. vesiculosus* in the fructification being situated in short, palmate, side shoots, in being destitute of vesicles, in its colour, which is yellowish-brown, and in its less coriaceous texture.

The mistake relative to the plant really meant by Linnæus, arose from his having called by the name of *Crispus*, a species that all preceding authors had termed *Ceranoides*. See Linn. Trans. vol. iii. p. 149.



8. *F. canaliculatus*, frond linear, nerveless, channelled beneath, dichotomous, with terminal, bifid, wedge-shaped tumid receptacles. Turn. Syn. B. F. p. 242. and Hist. Fuc. t. 3. E. B. t. 823. Ner. Brit. App.

HAB. Along the coast, frequent. 2

Distinguished by its grooved fronds, which are from 2-6 inches long, and 1-3 lines broad, and very numerous.

14. *F. loreus*, frond linear, nerveless, entire, compressed, dichotomous, with innate tubercles dispersed through the whole substance, springing from a peziziform base. Turn. Syn. B. F. p. 246. and Hist. Fuc. 196. Ner. Brit. p. 37. t. 10. E. B. t. 569.—Gray Nat. Arr. vol. i. p. 389. (*Himanthalia elongata*.) Lyngb. Hydr. p. 36. t. 8. and Grev. Fl. Edin. p. 285. (*H. lorea*.)

HAB. About Torquay, Plymouth Breakwater, &c. frequent. On the rocky parts of the coast. Summer. ☉

From 1-10 feet long; the whole surface on both sides studded with small, round, slightly prominent knobs; but its most remarkable feature is the peziziform base; and the young plants resemble fungi. The sporules are discharged by pores on the surface.

### 39. LAMINARIA.

τ. With a mid-rib.

1. *L. esculenta*, frond membranaceous, simple, ensiform, entire, on a round pinnated stipes; the pinnae fleshy, oblong, distichous, containing numerous pyriform, immersed sporules. Agardh. Syn. p. 16.—Ner. Brit. App. E. B. t. 1759. Turn. Syn. B. F. p. 104. and Hist. Fuc. p. 117. (*Fucus*.) Linn. Trans. vol. iii. p. 140. (*F. tetragonus* and *F. teres*.)

HAB. Plymouth Breakwater. Summer. 2

From 2 to 12 feet long, 4 or 5 inches wide. In Scotland, where the plant is very abundant, it is eaten both by men and cattle; on our coast it is by no means frequent.

τ τ. Ribless.

2. *L. saccharina*, stipes cylindrical, undivided, expanding into a simple, linear, oblong, cartilaginous leaf, in which the scattered seeds are immersed. Agardh. Syn. p. 17.—Ner. Brit. p. 31. t. 9. Turn. Syn. B. F. p. 198. and Hist. Fuc. t. 163. (*Fucus*.)

β. *F. phyllitis*. Ner. Brit. p. 33. t. 9. E. B. t. 1331. (the young state?)

γ. *bullata*. E. B. 1376. Disk of the frond bullate, margins waved.

HAB. Along the coast, common; grows in deep water. 2

1-8 feet or more long, 3-8 inches wide, derives its name from a white efflorescence, which gathers on the surface, when dried, like sugar in appearance, but of a nauseous taste.

3. *L. digitata*, root fibrous; stipes woody, round, expanding into a single, cartilaginous leaf, which is entire at the margins, and deeply cleft into many ensiform, mostly simple segments; (seeds oblong, immersed in the stipes.) Agardh. Syn. p. 18.—Ner. Brit. p. 5. t. 3. E. B. t. 2274. Turn. Syn. B. F. p. 207. and Hist. Fuc. p. 162. (*Fucus*.)

HAB. On the sea-coast, frequent; grows in deep water. 2

From 1 to 10 or 12 feet in length, olive-brown.

4. *L. bulbosa*, root tuberous, hollow; stipes flat, with a dilated, folded, undulated border, expanding into a single leaf, entire at the margins, and deeply cleft into many ensiform, mostly simple segments. E. B. t. 1760. Turn. Syn. B. F. p. 212. and Hist. Fuc. p. 161. (*Fucus*.) Ner. Brit. p. 6. t.

4. With. Arr. vol. iv. p. 97. (*F. polyschides*.)

HAB. On many parts of the coast, frequent. Torquay, Plymouth Breakwater, &c.

The largest of the British Fuci, and in common with the last species, often used as a manure near the coast.

6. *L. plantaginea*, dull-brown, membranous, aggregate, oblong, entire, obtuse, tapering at the base. Agardh. Syn. p. 20. E. B. t. 2136. (*Ulva plantaginea*.)

HAB. Teignmouth. Dawlish, Bot. Guide.

## VIII. CHARACEÆ.

### 1. CHARA.

1. *Ch. vulgaris*, stems round, roughish, branched; branchlets about 8 in a whorl, linear, subulate, rather acute; bractæ about 4. E. B. t. 336.

HAB. Pools on Bovey Heathfield. In the Stover Canal. Bogs on Woodbury Hill.

1-2 feet long, rigid, striate, rough but not prickly; fr. on the upper branchlets.

2. *Ch. flexilis*, stems pellucid, glabrous, flaccid, much branched; branches opposite, spreading; branchlets 6-8 in a whorl, 2 or 3 forked at the end, or simple and obtuse; nucules few, without bractæ. E. B. t. 1070.

HAB. Bovey Heathfield near the Coal Pits.

A foot or more in length; fr. less abundant than the last, and in the axils of the upper branchlets.



## IX. HEPATICÆ.

### 1. ANTHOCEROS.

1. *A. punctatus*, frond undivided, sinuated, dotted; margins waved. E. B. t. 1537.

HAB. In a bog on Bovey Heathfield. Liverton, near Ilsington, by the gate leading to Rora Wood, and Halford Lane, in the same parish.

### 2. JUNGERMANNIA.

#### A. Leafy.

##### a. Stipules none.

1. *J. julacea*, stem filiform, sub-erect, irregularly branched; leaves in 4 rows, closely imbricate, ovate, erect, acutely bifid, the segments lanceolate, slightly serrate; fr. terminal; cal. oblong, plaited above, mouth open, toothed. Hook. Jun. t. 2. E. B. t. 1023.

HAB. On the Tors of Dartmoor, Kestor, &c.

Grows in largish, dense, compact tufts, with frequently a hoariness spread over it.

2. *J. asplenioides*, stem ascending, branched; leaves obovate, roundish, toothed, sub-recurved; fr. terminal and lateral; cal. oblong, compressed, mouth truncate, subciliate. Hook. Jun. t. 14. E. B. t. 1061.

HAB. In wet shady situations, frequent.

4-5 inches long; leaves largish, 2-rowed, alternate.

3. *J. lanceolata*, stem procumbent, sub-simple; leaves patent, roundish, ovate: fr. terminal; cal. oblong, cylindrical, point flat, mouth contracted, toothed. Hook. Jun. t. 18.

HAB. Moist shady woods. Bagtor Wood, Ilsington.

4. *J. inflata*, stem procumbent, simple or branched; leaves roundish, concave, acutely bifid; segments obtuse; fr. terminal; cal. ob-pyriform, mouth contracted, toothed. Hook. Jun. t. 38.

HAB. In the lower part of Rora Wood, near Ilsington.

5. *J. cuspidata*, stem procumbent, branched in a stellated manner; leaves subquadrate, acutely bifid, segments acute, straight, entire; fr. terminal; cal. oblong, plaited, mouth toothed. Hook. Jun. t. 11. E. B. t. 2239.

HAB. Woods, heaths, &c. frequent.

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6. *J. undulata*, stem erect, slightly forked; leaves 2-lobed, waved, entire, lobes roundish, conduplicate, lower ones largest; fr. terminal; cal. oblong, compressed, incurved, mouth truncate, entire. Hook. Jun. t. 22. E. B. t. 225.

HAB. Woods not unfrequent. Bagtor Wood, near Ilington.

7. *J. resupinata*, stem procumbent, nearly simple; leaves roundish, 2-lobed, entire, lobes conduplicate, nearly equal; fr. terminal; cal. oblong, incurved, compressed, mouth truncate, toothed. Hook. Jun. t. 23. E. B. t. 2437.

HAB. On a rock in the road at Peamoor, near Exeter.

8. *J. albicans*, stem erect, slightly branched; leaves 2-lobed, lobes conduplicate, serrate at the end, with a central pellucid line, lower ones largest, scymitar-shaped, upper ones oblong, ovate, acute; fr. terminal; cal. obovate, cylindrical, mouth contracted, toothed. Hook. Jun. t. 25. E. B. t. 2240.

HAB. On Dartmoor and its vicinity, frequent.

9. *J. cochleariformis*, stem procumbent, sub-simple; leaves imbricate on the upper side, 2-lobed, conduplicate, upper lobes largest, convex, bifid, toothed at the end, lower ones saccate. Hook. Jun. t. 68. E. B. t. 2500.

HAB. Streams on Dartmoor and the neighbourhood.

10. *J. complanata*, stem creeping, irregularly branched; leaves distichous, imbricate above, 2-lobed, upper lobes largest, orbicular, lower ones ovate, appressed, plane; fr. terminal; cal. oblong, compressed, truncate. Hook. Jun. t. 81. E. B. t. 2499.

HAB. Trunks of trees, common.

b. With stipules.

11. *J. scalaris*, stem creeping; leaves round, concave, entire, emarginate; stipules broadly subulate; fr. terminal; cal. immersed in the leaves. Hook. Jun. t. 61. E. B. t. 605. (*J. lanceolata*.)

HAB. Hounter Wood, near Manaton; frequent.

12. *J. viticulosa*, stem procumbent, branched; leaves horizontal, ovate, plane, entire; stipules broadly ovate, irregularly toothed; fr. lateral; cal. subterraneous, oblong, fleshy, mouth fringed with leafy scales. Hook. Jun. t. 60. E. B. t. 2513.

HAB. In the lower wet parts of Rora and Bagtor Woods, near Ilington.

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13. *J. trichomanis*, stem creeping, sub-simple; leaves horizontal, convex, ovate, entire, or emarginate; stipules rounded, crescent-shaped; fr. lateral; cal. subterraneous, oblong, fleshy, hairy, mouth crenate. Hook. Jun. t. 79. E. B. t. 1875.

HAB. Woods and shady places, frequent.

14. *J. bidentata*, stem procumbent, branched; leaves broadly ovate, decurrent, point bifid, segments acute, entire; stipules 2 or 3-cut, and laciniate; fr. terminal; cal. subtriangular, mouth laciniate. Hook. Jun. t. 30. E. B. t. 606.

HAB. Woods, banks, &c. common.

15. *J. barbata*, stem procumbent, nearly simple; leaves roundish, quadrate, 3 or 4-cut; stipules lanceolate, bifid, their margins laciniated; fr. terminal; cal. ovate, contracted, mouth toothed. Hook. Jun. t. 70. E. B. t. 257.

HAB. Beckey Fall, near Manaton. Near Lydford Fall.

16. *J. reptans*, stem creeping, branched in a stellate manner; leaves imbricate above, subquadrate, incurved, 4-toothed; stipules quadrate, 4-toothed; fr. radical; cal. oblong, folded, mouth toothed. Hook. Jun. t. 75. E. B. t. 608.

HAB. In woods. Lower part of Hounter Wood, Manaton.

17. *J. platyphylla*, stem procumbent, pinnately branched; leaves unequally lobed, upper lobes roundish, ovate, sub-entire, lower ones ligulate; stipules ligulate, entire; fr. lateral; cal. ovate, compressed, truncate, inciso-serrate, cleft lengthways. Hook. Jun. t. 40. E. B. t. 798.

HAB. Woods, &c. common.

18. *J. tomentilla*, stem sub-erect, bi-pinnate; leaves nearly plane, unequally 2-lobed, cut into many capillary segments, superior lobes 2-parted, lower ones minute; stipules subquadrate, laciniate; fr. axillary; cal. oblong, cylindrical, hairy, mouth open. Hook. Jun. t. 36. E. B. t. 224?

HAB. Wet shady places, common.

19. *J. dilatata*, stem creeping, irregularly branched; leaves unequally 2-lobed, upper lobes round, ovate, inferior ones saccate; stipules rounded, plane, immarginate; fr. terminal; cal. obcordate, tuberculate, triangular. Hook. Jun. t. 5. E. B. t. 1086. (*J. tamariscifolia*.)

HAB. On trees and rocks, frequent.

20. *J. Tamarisci*, stem creeping, pinnately branched;



leaves unequally 2-lobed, upper lobes ovate, roundish, lower ones minute, obovate, saccate; stipules subquadrate, emarginate, with revolute margins; fr. terminal, on short branches. Hook. Jun. t. 6. E. B. t. 2481. (*J. tamariscina*.)

HAB. On trees and rocks, common.

#### B. Frondose.

21. *J. pinguis*, frond irregularly branched, oblong, decumbent, nerveless, fleshy, nearly plane above, swelling beneath, margins sinuated; fr. from the under side, near the margin; cal. short, mouth dilated, fringed; calyptra exerted, oblong, cylindrical, smooth. Hook. Jun. t. 46. E. B. t. 185.

HAB. In wet, boggy situations. Lower part of Bagtor Wood, near Il-sington.

22. *J. multifida*, frond pinnately branched, linear, nerveless, fleshy, compressed; fr. marginal; cal. short, mouth dilated, fringed; calyptra exerted, oblong, cylindrical, tuberculate. Hook. Jun. t. 45. E. B. t. 186.

HAB. In boggy places, common.

23. *J. epiphylla*, frond oblong, submembranaceous, irregularly divided, obsolete ribbed; margin entire, or lobed and sinuated; fr. from the upper part of the frond, near the end; cal. subcylindrical, folded, mouth dilated, toothed; calyptra exerted, smooth. Hook. Jun. t. 47. E. B. t. 771.

HAB. In wet and boggy situations, frequent.

24. *J. furcata*, frond linear, dichotomous, membranaceous, ribbed, glabrous above, more or less hairy beneath, and on the margin; fr. from the lower surface of the nerve; cal. 2-lobed, conduplicate, margin ciliated; calyptra obovate, hispid. Hook. Jun. t. 55 and 56. E. B. t. 1632.

HAB. On trees and rocks, common.

#### 3. TARGIONIA.

1. *T. hypophylla*. E. B. t. 287.

HAB. On a bank by Liverton Mill near Il-sington, abundant. Near Ex-mouth and Dawlish.

With imbricated, dark-green, oblong, ovate fronds, which are purple, scaly and rooting beneath. The calyx, sessile and spherical.

#### 4. MARCHANTIA.

1. *M. polymorpha*, receptacle of the capsules deeply cut in a stellate manner, into about 10 segments, that of the anthers pedunculate. E. B. t. 210.

HAB. Wet shady banks and rocks, frequent.

2. *M. cruciata*, receptacle of the capsules cut into 4 or 5 tubular segments. With. Bot. Arr. p. 855.

HAB. Wet hedges, &c. frequent. June—October. 2

3. *M. hemispharica*, receptacle of the capsules hemispherical, cut into about 5 oval segments. E. B. t. 503. and 2545. (*M. androgyna*.)

HAB. In wet situations, frequent. Spring. 2

4. *M. conica*, receptacle of the capsules entire, conical, ovate; that of the anthers sessile. E. B. t. 505.

HAB. Along banks of streams, and in shady wet situations, frequent. March, April. 2

## X. MUSCI.

### 1. ANDRÆA.

1. *A. Rothii*, stems sub-simple; leaves lanceolate-subulate, falcate, secund, nerved, fragile; perichæatial ones oblong, nerveless, with involute margins. Musc. Brit. p. 2. t. 8.

HAB. Granite rocks, common. Dartmoor. Hightor Rocks. Gidley Park. Near Dunsford. Fl. Spring, Summer.

### 2. SPHAGNUM.

1. *S. obtusifolium*, branches tumid; leaves ovate, obtuse. Musc. Brit. p. 3. t. 4.—E. B. t. 1405. (*S. latifolium*.)

HAB. Bogs, common.

2. *S. squarrosum*, branches attenuated at the ends; leaves ovate, acuminate, squarrose, recurved. Musc. Brit. p. 4.

HAB. Bogs, not unfrequent.

The acuminate recurved leaves distinguish this from the last, which in other respects it closely resembles.

3. *S. acutifolium*, branches attenuated; leaves ovate-lanceolate, crowded. Musc. Brit. p. 4.—E. B. t. 1406. (*S. capillifolium*.)

HAB. Bogs, common. Fl. June.

4. *S. cuspidatum*, branches attenuated; leaves lanceolate-subulate, lax. Musc. Brit. p. 4.

HAB. In peat pits holding water, frequent; mostly growing in the water. Fl. June.

The older botanists (perhaps rightly) included all these under the name of *Sphagnum palustre*.

## 3. PHASCUM.

## τ. Creeping shoots 0.

## a. Leaves more or less subulate.

1. *P. alternifolium*, with elongated innovations or shoots; leaves entire, lanceolate-subulate. Musc. Brit. p. 6.

HAB. Rora Wood, Ilasington; near Lympstone; near Teignmouth. Near Torquay, Dr. Greville.

Distinguished by the long slender shoots, the distant alternate leaves, and the larger and longer perichætal leaves, in which the fruit is immersed.

2. *P. crispum*, leaves lanceolato-subulate, flexuose; crisped when dry. Musc. Brit. p. 6. E. B. t. 1680. and 618. (*P. multicapsulare*.)

HAB. Banks and fields, occasionally. Near Torquay, Rev. Mr. Tozer.

3. *P. subulatum*, leaves subulate, setaceous, straight; nerve disappearing below the point. Musc. Brit. p. 6.

HAB. Dry banks, frequent.

4. *P. axillare*, leaves lanceolato-subulate, straight; nerve disappearing below the point; fruit at length lateral. Musc. Brit. p. 7. E. B. t. 1036. and 2093. (*P. strictum*.)

HAB. Moist and clayey banks, occasionally. Woodbury and Lympstone, frequent. Cleve, near Exeter, Dr. Greville. Near Totness, Rev. Mr. Tozer.

Differs from the last in the leaves being less acuminate and of a less rigid texture; both may be distinguished from the rest of the genus by their very narrow leaves and pale-yellow colour.

b. Leaves more or less ovate; pedicel immersed in the leaves.

5. *P. patens*, leaves narrow-ovate, serrate, patent, their nerve disappearing below the point. Musc. Brit. p. 7.

HAB. Clayey banks about Totness.

6. *P. muticum*, leaves ovate-rounded, concave, acuminate, connivent. Musc. Brit. p. 7.

α. *majus*, leaves serrate at the points. E. B. t. 2027. (*P. muticum*.)

β. *minus*, leaves entire.

HAB. α. Banks in Rora and Penn Woods, Ilasington; about Teignmouth and Shaldon. β. Banks near the sea, at Torquay, Dr. Hooker.

The leaves close round the capsule, so as to form an ovate bulb.

7. *P. cuspidatum*, leaves ovate, acuminate, erect, their nerve reaching to the point. Musc. Brit. p. 8. E. B. t. 2025. and 2026. (*P. Schreberianum*,) and E. B. t. 2259. (*P. curvisetum*,) and E. B. t. 1888. (*P. piliferum*.)

*α.* Leaves apiculate.

*β.* Leaves hair-pointed.

HAB. *α.* Moist banks, occasionally. Peak Hill, Sidmouth. Near Ashburton and Teignmouth. *β.* Ilington.

Differs from the last in the less convex entire leaves and less rigid texture.

*c.* Leaves ovate; pedicels exserted.

8. *P. rectum*, leaves ovate, with a short point; fruit-stalk nearly erect; caps. globose. Musc. Brit. p. 9.

HAB. In a field at Rora, near Ilington. In an orchard about a mile from Exeter, in a lane connecting the Oakhampton and Moreton roads, Miss Dale. Lines at Devonport, Rev. Mr. Tozer.

9. *P. curvicolium*, leaves narrow-ovate, acuminate; fruit-stalk curved; caps. globose. Musc. Brit. p. 9.

HAB. In a field adjoining Rora Down, near Ilington.

The leaves are much longer, more flexible, and more acuminate than the last.

#### 4. GYMNSTOMUM.

*a.* Stem elongated, branched.

1. *G. viridissimum*, leaves broadly lanceolate; caps. ovate, the lid obliquely rostrate. Musc. Brit. p. 10. E. B. t. 1583. — E. B. t. 2225. (*Grimmia? Fosteri.*)

HAB. On trees, in orchards, &c. frequent.

*b.* Stems short, simple.

2. *G. ovatum*, leaves ovate, erect, concave, piliferous; nerve furnished with a granuliferous membrane. Musc. Brit. p. 11.

HAB. On the thatch of a garden wall at Heavitree. Miss Dale.

The length of the fruit-stalk and form of the capsule vary.

3. *G. truncatulum*, leaves ovate, apiculate, patent, nearly plane; lid obliquely rostrate. Musc. Brit. p. 12. E. B. t. 1975. and 1976. (*G. intermedium.*)

HAB. Banks and walls, common.

4. *G. conicum*, leaves oblong-obovate; caps. ovate; lid conical, obtuse. Musc. Brit. p. 12.

HAB. With *G. ovatum* as given above, Miss Dale; and also near the Heavitree quarry.

5. *G. fasciculare*, leaves oblong, acuminate, nearly plane, sub-serrate, margined; caps. pyriform; lid plane, slightly mamillated. Musc. Brit. p. 12.

HAB. By the stream in Rora Wood, Ilington. Near Lymptone. Cawsand Hill, Dr. Greville. Banks of the Dart, above Hoodbridge, and in Griofer Vale, Horrabridge, Rev. Mr. Tozer.

6. *G. pyriforme*, leaves ovate, acuminate, concave, serrate, not margined; caps. roundish, obovate; lid convex, shortly rostrate. Musc. Brit. p. 13.

HAB. Lympstone. Near Exeter. North Bovey, &c. frequent.

#### 5. ANICTANGIUM.

1. *A. ciliatum*, leaves ovate, much lengthened, and diaphanous at the points; perichætical leaves lacinated at the end. Musc. Brit. p. 14.—E. B. t. 1179. (*Gymnostomum*.)

HAB. Dartmoor and the adjoining Downs, common. Haldon.

#### 6. SCHISTOSTEGA.

1. *S. pennata*. Musc. Brit. p. 15. Wern. Trans. vol. v. p. 55.

HAB. In the road from Zeal to South Tawton Church, Rev. Mr. Newberry. Bowden, near Totness, Miss Adams. Not unfrequent in the neighbourhood of Totness, to the westward, Rev. Mr. Tozer. Kingsbridge road, a few yards after leaving the old road from Plymouth to Totness. Near Harberton village, and near Chilwell in the same parish. Meavy parsonage. Near Horrabridge, on same authority.

Stems simple, filiform, flexuose, erect; leaves distichous on the upper part of the stem, plane, lanceolate, nerveless, entire, loosely reticulate. Mr. Tozer states that the lid of one theca, placed under a microscope, split, on being touched, into many radiating segments from the circumference to the centre.

#### 7. TETRAPHIS.

1. *T. pellucida*, stems elongate; leaves ovate, acuminate; perichætical ones lanceolate; caps. cylindrical. Musc. Brit. p. 16. Linn. Trans. vol. xii. p. 579. Fl. Lond. (new series.)

HAB. On a decayed stump in the higher part of Penn Wood, Ilington. Hay's and Parson's Wood, Meavy, Rev. Mr. Tozer.

2. *T. Browniana*, stems very short; leaves few, linear, slightly thickened above; perichætical ones ovate, obtuse; caps. ovate. Fl. Edin. p. 230.—Musc. Brit. p. 17. (*T. ovata*.)

HAB. Under a hanging wood, in Hay's Wood, Meavy, Rev. Mr. Tozer.

#### 8. SPLACHNUM.

1. *S. ampullaceum*, leaves ovate-lanceolate, acuminate, serrate; apophysis inversely flagon-shaped, twice the width of the capsule.—Musc. Brit. p. 20. E. B. t. 144.—E. B. t. 1116. (*S. Turnerianum*.)

HAB. Woodbury Hill. Peak Hill, near Sidmouth.

#### 9. POLYTRICHUM.

##### a. Calyptra naked.

1. *P. undulatum*, leaves lanceolate, undulate, margins plane,



denticulate, nerve winged; caps. cylindrical, curved; lid subulate. *Musc. Brit.* p. 24. *Wern. Trans.* vol. iv. p. 115.

*HAB.* Moist banks, &c. common.

Leaves of a thin delicate structure, (quite different from the other species,) crisped when dry.

*b.* Calyptra covered with succulent filaments.

*τ.* Leaves entire; their margins involute.

2. *P. piliferum*, leaves lanceolate-subulate, with a pellucid hair-like point; caps. ovate, obtusely 4-sided, with an apophysis; lid conical. *Musc. Brit.* p. 24. t. 10.

*HAB.* Exposed heaths, common.

3. *P. juniperinum*, leaves lanceolate-subulate, with acuminate, coloured, sub-serrate points; caps. ovate, obtusely 4-sided, with an apophysis; lid conical. *Musc. Brit.* p. 25. *E. B. t.* 1200. and 2435. (*P. strictum.*)

*HAB.* In similar situations with the last, frequent.

*ττ.* Leaves serrated; their margins plane.

4. *P. commune*, stems elongated; leaves patent, linear-subulate, keel serrate at the end; caps. erect, ovate, 4-sided, with an apophysis. *Musc. Brit.* p. 26.

*α. yuccaefolium*, stem 8-12 inches in length; leaves with margins of the same colour; caps. acutely 4-sided; apoph. very distinct. *E. B. t.* 1197. (*P. commune.*)

*β. attenuatum*, stem 3 or 4 inches in length; leaves shorter, with pellucid margins; caps. obtusely 4-sided; apoph. indistinct. *E. B. t.* 1198. (*P. attenuatum.*) and 1827. (*P. gracile.*)

*HAB.* Woods, downs, &c. common. *Var. α.* in wet situations. *β.* in drier and more exposed ones.

5. *P. urnigerum*, stems elongated, branched; leaves slightly spreading, lanceolate, acute; caps. erect, cylindrical, without an apophysis. *Musc. Brit.* p. 27.

*HAB.* Streams on Haldon, Dartmoor, &c. common.

6. *P. aloides*, stems short; leaves linear-lanceolate, obtuse; caps. sub-erect, cylindrical, without apophysis. *Musc. Brit.* p. 28. *E. B. t.* 1649. and 1605. (*P. Dicksoni.*) and 1939. (*P. rubellum.*)

*HAB.* Hedges, banks, &c. common.

7. *P. nanum*, stems short; leaves linear-lanceolate, obtuse; caps. sub-erect, subglobose. *Musc. Brit.* p. 28. *E. B.* 1625. —*E. B. t.* 1624. (*P. subrotundum.*)

HAB. Hedges, banks, &c. common ; in more exposed situations than the last generally, but often intermixed.

Scarcely distinct from the last ; plants frequently occur with capsules of such an intermediate shape, that it is difficult to determine to which species they should be referred.

#### 10. CINCLIDOTUS.

1. *C. fontinaloides*. Musc. Brit. p. 29.—E. B. t. 557.  
(*Fontinalis minor*.)

HAB. Rocks on the Dart above Hood Bridge ; and also in the stream by Torr Mill, Harberton, Rev. Mr. Tozer.

Plant 4-6 inches long, branched, thickly clothed with dark lurid-green leaves.

#### 11. TORTULA.

1. *T. rigida*, stem scarcely any ; leaves patent, oblong, rigid, margins much inflexed, nerve broad ; caps. oblong ; lid conical, acuminate. Musc. Brit. p. 30.

HAB. Rocks, walls, &c. frequent. Babbicombe. Torquay. Topsham Bridge. Old walls at Ilington Rectory. Hedge by Dart Bridge. About Plymouth, &c.

Distinguished from the other species of the genus by its rigid leaves and broad nerve.

2. *T. muralis*, stems short ; leaves patent, linear-oblong, margins recurved ; nerve produced beyond the leaf into a white, hair-like point ; caps. oblong ; lid conical, acuminate. Musc. Brit. p. 30.

HAB. Walls and stones, common.

3. *T. ruralis*, stems elongated ; leaves oblong, keeled, patent, recurved, nerve terminating in a long, serrated, mostly diaphanous point ; caps. oblong ; lid subulate ; peristome teeth united into a tube below. Musc. Brit. p. 31.

HAB. Trees, banks, &c. common, growing in thick tufts.

4. *T. subulata*, stems very short ; leaves oblong-lanceolate, acuminate, nerve excurrent, often apiculate ; caps. cylindrical ; lid conical, subulate ; peristome teeth united nearly to the apex in a long tube. Musc. Brit. p. 31.

HAB. Hedges, banks, &c. common.

5. *T. cuneifolia*, stem scarcely any ; leaves broadly obovate, concave, nerve terminating in a long and often serrulate point ; caps. oblong ; lid shortly rostrate ; peristome teeth united at the base. Musc. Brit. p. 31.

HAB. Damp banks, frequent. Ilington. Banks on the road between Moreton and Exeter. In the old road to Crabtree, one mile and a-half from Plymouth, Rev. Mr. Tozer. About Torquay and Torpoint, Dr. Hooker.

Has the habit of the last, but is much smaller.

6. *T. tortuosa*, stems elongated, branched; leaves linear-subulate, undulate, when dry much twisted; caps. cylindrical, rostrate. Musc. Brit. p. 32.

HAB. Chudleigh Rocks. Babbicombe. Torquay. On lime-stone rocks.

7. *T. fallax*, stems elongated, branched; leaves lanceolate-subulate, spreading or recurved, margins reflexed; caps. oblong; lid rostrate, nearly as long as the capsule. Musc. Brit. p. 32. E. B. t. 1708. and 2316. (*T. unguiculata*.) and 2329. (*T. imberbis*.)

HAB. Hedge banks; on the ground in fields, &c. common.

Varies much in size according to situation, from half an inch to two inches.

8. *T. revoluta*, stems short; leaves lanceolate, acuminate, cauline ones with very revolute margins; perichaetial leaves sheathing, their margins involute; caps. oblong; lid rostrate, shorter than the capsule. Musc. Brit. p. 33. E. B. t. 2383. (*T. nervosa*.)

HAB. North Bovey Bridge. In a field near Dawlish, Mr. Jacob.

9. *T. unguiculata*, stems branched; leaves linear-lanceolate, obtuse, margins nearly plane, nerve apiculate; caps. oblong; lid rostrate, nearly as long as the capsule. Musc. Brit. p. 33.—E. B. t. 1299. (*T. mucronulata*.) E. B. t. 2392. (*T. aristata*.) and 2391. (*T. barbata*.) 1663. (*T. humilis*.) 2494. (*T. apiculata*.)

HAB. Banks, hedges, &c. common; varies in size from  $\frac{1}{4}$  to 1 inch.

## 12. ENCALYPTA.

1. *E. vulgaris*, stems short; leaves oblong-elliptical, obtuse, nerve slightly produced; caps. cylindrical, smooth; calyptra entire at the base. Musc. Brit. p. 35.—E. B. t. 558. (*Bryum extinctorum*.)

HAB. Lime Quarry at Ingsdon near Ilkington. Lime-stone Hills, Torquay, Rev. Mr. Tozer.

## 13. GRIMMIA.

1. *Gr. apocarpa*, stems branched; leaves ovate-lanceolate, recurved, margins reflexed; perichaetial leaves, nerve not produced; caps. ovate, sessile; lid shortly beaked. Musc. Brit. p. 36.

*a. nigro-viridis*, leaves broader, blackish-green. E. B. t. 1134. (*Gr. apocarpa*.) and 1345. (*G. rivularis*.)

*$\beta$ . stricta*, stems elongated; leaves narrower, reddish. E. B. t. 1963.

HAB. Trees and rocks, common.  *$\beta$* . In higher and more exposed situations, varying much in size.

2. *Gr. maritima*, stems short, pulvinate; leaves lanceolate, acuminate, sub-erect, crisped when dry, margins recurved; perichæatial leaves with the nerve produced; caps. ovate, sessile; lid shortly beaked. *Musc. Brit.* p. 37.

HAB. Rocks on the sea-coast. Ilfracombe, Dr. Greville. Near Plymouth, Rev. Mr. Tozer.

3. *Gr. pulvinata*, stems short, pulvinate; leaves narrow-elliptical, margins recurved, points hair-like, diaphanous; caps. ovate, striate, on a curved fruit-stalk; lid conical, pointed. *Musc. Brit.* p. 38.

HAB. Walls and rocks, common; growing in dense hoary tufts.

4. *G. Daviesii*, stems short; leaves lanceolate, acuminate, keeled, entire, crisped when dry, margins recurved; perichæatial leaves broad, convolute; caps. turbinate, on a straight fruit-stalk; lid rostrate. *Musc. Brit.* p. 39.—E. B. t. 1281. (*Encalypta*.)

HAB. Cocks' Tor near Tavistock, Rev. Mr. Tozer.

5. *Gr. ovata*, stems slightly branched; leaves lanceolate-subulate, gradually produced into long hair-like, diaphanous points; margins incurved; caps. ovate; lid rostrate. *Musc. Brit.* p. 39.—E. B. t. 2165. (*Dicranum ovale*.)

HAB. High Tor Rocks, and in similar situations, frequent.

Differs from *Gr. pulvinata*, in the fruit-stalks being uniformly straight; in the smooth capsule, and narrower, gradually acuminate leaves; the teeth of the peristome are frequently split and perforated.

#### 14. PTEROGONIUM.

1. *Pt. Smithii*, stems branched, branches pinnate; leaves tongue-shaped, obtuse, entire, crisped when dry; margins recurved, nerve reaching beyond the middle; fruit-stalks short; lid rostrate. *Musc. Brit.* p. 40.

HAB. Trees, &c. frequent. Near Maidencombe, abundant, Dr. Greville. Avenue of Tor Abbey, Rev. Mr. Tozer.

2. *Pt. gracile*, branches fascicled, curved; leaves broadly ovate, acute, concave, margins plane, summits serrated, faintly 2-nerved at the base; lid conical. *Musc. Brit.* p. 41.

HAB. Lustleigh Cleve, abundant. Botor Rock near Hennock. Brentor near Tavistock. Near Shaugh Bridge, and Dewerstone Rocks, Rev. Mr. Tozer.

#### 15. WEISSIA.

1. *W. Starkeana*, stems very short; leaves ovate, nerve produced; caps. ovate, erect; lid conical; peristome teeth subulate, acute. *Musc. Brit.* p. 44. t. 14.

HAB. Fields near Torquay, Dr. Greville.



2. *W. lanceolata*, stems rather elongated; leaves ovate, nerve produced, almost piliferous; caps. ovate; lid obliquely rostrate. Musc. Brit. p. 44.

HAB. Moreton road, near Exeter, Dr. Greville. White Rock, near Totness, Rev. Mr. Tozer.

Differs from the last in its larger size, narrower leaves, their laxer reticulation, and more produced nerve, and by its rostrate lid.

3. *W. curvirostra*, leaves linear-subulate; caps. ovate, cylindrical; lid rostrate. Musc. Brit. p. 46.—E. B. t. 1438. (*Grimmia*.)

HAB. On thatch at Dunsford, Mr. Jacob. On the wall at Heavitree Quarry, Miss Dale. On sandy banks by the Dart, above Hood Bridge, Rev. Mr. Tozer.

Has the habit of a *Tortula*; stems vary much in length, the nerve dark and strong, giving the leaves a peculiar rigidity.

4. *W. cirrata*, leaves broadly subulate, crisped when dry, margins recurved; caps. ovate; lid rostrate. Musc. Brit. p. 46.

HAB. On old posts, rails, &c. common.

5. *W. crispula*, stems divided; leaves broad at the base, lanceolate-subulate, crisped when dry, margins incurved; caps. ovate-elliptical, lid rostrate. Musc. Brit. p. 46.

HAB. On granite rocks, common.

Differs from *W. cirrata* in its smaller size, darker colour, and longer, narrower, canaliculate leaves, without any recurvation of the margin.

6. *W. controversa*, stems sub-simple; leaves linear-subulate, crisped when dry, margins incurved; caps. ovate-elliptical, lid rostrate. Musc. Brit. p. 47.

HAB. Banks and hedges, common.

Differs from the 2 last in the smaller size and longer leaves; the teeth of the peristome are occasionally split, as in the genus *Dicranum*.

## 16. DICRANUM.

### A. Leaves bifarious. (*Fissidens* of Hedwig.)

1. *D. bryoides*, perichaetial and cauline leaves similar; fruit-stalks terminal. Musc. Brit. p. 49. t. 16.

α. Caps. erect. E. B. t. 625. (*D. bryoides*.) 1368. (*D. viridulum*.) and 1662. (*D. osmundioides*.)

β. Caps. drooping.

HAB. Damp hedges, &c. common.

2. *D. adiantoides*, perichaetial leaves ovate, slightly convolute, pointed; fruit-stalks lateral. Musc. Brit. p. 51.



HAB. Shady wet banks, occasionally. Liddford Fall, Dr. Greville. Wet lane near Ilington village. Dart Banks below Hood Bridge, Rev. Mr. Tozer. Shady wet rock at Exwick, Mr. Jacob. Much larger than the last species.

3. *D. tarifolium*, perichaetial leaves ovate, sheathing, involute, pointed; fr. stalks radicular. Musc. Brit. p. 51.

HAB. Wet banks, common. Near Exeter. North Bovey. Widdicombe-in-the-Moor, &c.

B. Leaves inserted on all sides the stem.

a. Leaves nerveless.

4. *D. glaucum*, stems branched, fastigiate; leaves ovate-lanceolate, straight, entire; caps. ovate, cernuous; lid rostrate. Musc. Brit. p. 52.

HAB. Bogs and wet heaths, common. Dartmoor and its vicinity. Bora and Penn Woods, Ilington. Haldon. Hightor Down, in fruit. Roborough Down, just below Hoo Meavy Bridge, ditto, Rev. Mr. Tozer.

Has the habit and pale, nerveless, reticulate leaves of the *Sphagni*; the fruit rare.

b. Leaves with a very broad nerve.

5. *D. cerviculatum*, stems short, leaves lanceolate-subulate, entire, sub-secund; caps. ovate, subcernuous, strumose; lid rostrate. Musc. Brit. p. 53. E. B. t. 1661.—E. B. t. 2491. (*D. pusillum*.) and 2261. (*D. uncinatum*.)

HAB. Bagtor Wood, Ilington.

6. *D. flexuosum*, stems nearly simple, rigid; leaves lanceolate-subulate, acuminate, straight; fr. stalks flexuose; caps. ovate, striate; lid rostrate. Musc. Brit. p. 53.

HAB. Bogs frequent. Dartmoor and its vicinity. Haldon. Wet rock at Exwick, Mr. Jacob. Cawsand Hill, Dr. Greville. The piliferous variety on wet granite on Wanaton Down near Meavy, Rev. Mr. Tozer.

The calyptra is fringed with long cilia at the base.

c. Nerve narrow; caps. with a struma.

7. *D. virens*, stems elongated; leaves subulate, with a broad sheathing base and recurved margins, crisped when dry, pointing in all directions; caps. smooth, oblong-cylindrical, subcernuous; lid rostrate. Musc. Brit. p. 54.

HAB. Dartmoor, at the back of the Prison.

8. *D. strumiferum*, stems elongated; leaves subulate, entire, with a broad sheathing base and plane margins, crisped when dry, pointing in all directions; caps. furrowed, oblong-ovate, subcernuous; lid rostrate. Musc. Brit. p. 54.

HAB. Hightor Down. Dartmoor, at the back of the Prison.

*d.* Nerve narrow; caps. without a struma.

9. *D. flavescens*, stems branched; leaves long, lanceolate, serrulate, pointing in all directions, crisped when dry; caps. oblong, erect; lid rostrate. Musc. Brit. p. 55.

HAB. Lidford Fall, Dr. Greville.

10. *D. pellucidum*, stems branched; leaves lanceolate, obtuse, margins slightly undulated, serrate, pointing in all directions; caps. ovate, subcernuous; lid rostrate. Musc. Brit. p. 55.

HAB. Near Lidford, Dr. Greville.

11. *D. undulatum*, stems elongated; leaves nearly plane, narrow-lanceolate, serrulate at the point, transversely undulate; caps. cylindrical, cernuous; lid with a long beak. Musc. Brit. p. 57.

HAB. Wet woods and bogs, frequent. Court Wood, Ilington.

12. *D. scoparium*, stems elongated; leaves narrow-subulate, grooved, secund; caps. cylindrical, arched, cernuous; lid with a long beak. Musc. Brit. p. 57.

*α. majus*, stems 2 and 3 inches; leaves falcate, secund. E. B. t. 1490. (*D. majus*,) and 354. (*Bryum scoparium*.)

*β. fuscescens*, much smaller; leaves sub-secund, narrower, rather more crisped when dry. E. B. t. 1597. (*D. fuscescens*.)

HAB. Woods and hedges, common. *β.* In higher and more exposed situations.

13. *D. varium*, stems short; leaves narrow, hastate-lanceolate; caps. ovate; lid rostrate. Musc. Brit. p. 58.

*α. viride*, leaves lanceolate, green, pointing in all directions; caps. subcernuous. E. B. t. 1215. (*D. varium*.)

*β. rufescens*, leaves lanceolate-subulate, reddish, subsecund; caps. erect. E. B. t. 1216. (*D. rufescens*.)

HAB. Wet banks, &c. frequent.

14. *D. heteromallum*, stems branched; leaves subulate, falcate, secund, sub-entire; caps. ovate, subcernuous; lid with a long beak. Musc. Brit. p. 59.

HAB. Moist shady banks, frequent. Banks near Dunsford. Rora, Penn. and Bagtor Woods, Ilington. Near Meavy, not unfrequent, Rev. Mr. Tozer.

15. *D. subulatum*, stems branched; leaves subulate-seta-

ceous, with a broad spreading base, entire, secund; caps. ovate, subcernuous; lid with a long beak. *Musc. Brit.* p. 59.

HAB. Wet Banks. Bagtor Wood, Ilington. Banks about Dawlish, Mr. Jacob.

Closely allied to the preceding.

## 17. TRICHOSTOMUM.

### a. Peduncles curved.

1. *Tr. patens*, stems elongated; leaves lanceolate, acuminate, keeled, margins recurved; caps. ovate; lid conical. *Musc. Brit.* p. 60.

$\beta$ . *funale*, caps. furrowed; leaves hair pointed.

HAB. Sheeps' Tor, Rev. Mr. Tozer.  $\beta$ . Rocks both sides of the Plym above Dewerstone Rocks, Rev. Mr. Tozer, who states his opinion that this is a distinct species, contrary to that of Drs. Hooker and Greville.

### b. Peduncles straight; leaves with diaphanous points.

2. *Tr. lanuginosum*, stems elongated, subpinnate: leaves lanceolate-subulate, acuminate, margins recurved, points long, diaphanous, serrate; caps. ovate; lid rostrate. *Musc. Brit.* p. 60.

HAB. Granite rocks in high situations, common. Dartmoor, Lustleigh Cleve, North Bovey, &c.

The stems are frequently a foot or more in length. The fruit-stalks short, terminal, on lateral branches.

3. *Tr. canescens*, stems irregularly branched; leaves ovate-lanceolate, with slightly serrate, acuminate points; caps. ovate; peristome teeth very long and filiform; lid subulate. *Musc. Brit.* p. 61. E. B. t. 2534. and 1991. (*Tr. ericoides*.)

HAB. High exposed situations, common; the fruit rare. Horsehanger and Roborough Downs, in fruit. Rev. Mr. Tozer.

4. *Tr. heterostichum*, stems branched; leaves ovate-lanceolate, with slightly serrate, acuminate points; caps. oblong; peristome teeth short; lid rostrate. *Musc. Brit.* p. 61.

HAB. High exposed situations, common. Dartmoor, Lustleigh Cleve, North Bovey, &c.

5. *Tr. microcarpon*, stems branched; leaves lanceolate, with slightly serrate, acuminate points; caps. oblong; peristome teeth short; lid rostrate. *Musc. Brit.* p. 61.

HAB. Dartmoor, Lustleigh Cleve, North Bovey, &c.

### c. Peduncles straight; leaves not diaphanous at the point.

6. *Tr. aciculare*, stems elongated, branched; leaves lan-

ceolate, obtuse, serrulate at the points; nerve shorter; caps. oblong; lid rostrate. Musc. Brit. p. 62.—E. B. t. 1978. (*Dicranum*.)

HAB. Rocks and stones in water, common.

7. *Tr. fasciculare*, stems elongated, branched; leaves lanceolate, entire; margins recurved; caps. ovate-oblong; lid rostrate. Musc. Brit. p. 62.

HAB. Haldon, Dartmoor, rocks near Dunsford, Hightor Down, &c. common.

8. *Tr. polyphyllum*, stems branched; leaves lanceolate-subulate, margins recurved, serrated above, much crisped when dry; caps. oblong; lid rostrate. Musc. Brit. p. 62.

HAB. On Schist rocks, in various parts bordering on Dartmoor. Bagtor near Ilington, Brent Tor above Brent, &c.

## 18. LEUCODON.

1. *L. sciuroides*, leaves closely imbricate, ovate-cordate, acuminate, striate; caps. oblong. Musc. Brit. p. 63.

HAB. Trunks of trees, frequent. About Exeter, Lustleigh, North Bovey, Ugbrooke Park; the fruit rare.

## 19. DIDYMODON.

1. *D. purpureum*, stems nearly simple; leaves lanceolate, acuminate, keeled; margins recurved, entire; caps. ovate-cylindrical, oblique, substrumose, furrowed when dry; lid conical. Musc. Brit. p. 65.—E. B. t. 2262. (*Bryum bipartitum*,) 2294. (*Dicranum strictum*,) 2418. (*Dicranum Celsii*,) and 2533. (*Trichostomum papillosum*.)

HAB. Walls, rocks, &c. common.

2. *D. nervosum*, leaves obovate, shortly apiculate, nerve incrassate above; caps. ovate, erect; lid with a short beak. Musc. Brit. p. 66.—E. B. t. 2015. (*Grimmia atrovirens*.)

HAB. Peak Hill near Sidmouth. On a sandy rock near Exmouth, Mr. Jacob.

3. *D. trifarium*, leaves somewhat 3-rowed and distant, lanceolate, obtuse, keeled, nerve scarcely reaching the point; caps. oblong-ovate, erect; lid rostrate. Musc. Brit. p. 67.—E. B. t. 1707. (*Trichostomum trifarium*,) and 2295. (*Trichostomum linoides*.)

HAB. Cliffs between Dawlish and Teignmouth, in a wet declivity, half a mile from the latter.

4. *D. heteromallum*, stems shortish; leaves subulate, sub-

secund; caps. ovate-cylindrical; lid conical. Musc. Brit. p. 68.—E. B. t. 1899. (*Grimmia*.)

HAB. Dartmoor, on Cawsand Hill, Dr. Greville.

## 20. FUNARIA.

1. *F. hygrometrica*, leaves concave, ovate, entire, apiculate, nerve excurrent; fr. stalks curved, flexuose. Musc. Brit. p. 69. t. 20.

HAB. Walls, dry banks, &c. common.

2. *F. Muhlenbergii*, stems short; leaves concave, ovate, suddenly acuminate, serrate; nerve disappearing below the point; fr. stalks straight. Musc. Brit. p. 69.

HAB. Bovey Heathfield, near Bellevue Farm. Bank beside the Dawlish road, near Teignmouth, Mr. Jacob. Woodhouse Moors, Ilington.

## 21. ORTHOTRICHUM.

### a. Peristome without ciliæ.

1. *O. anomalum*, leaves lanceolate, slightly spreading; peduncles longer than the leaves; peristome of 8 double teeth; calyptra slightly hairy. Musc. Brit. p. 72. t. 21.

HAB. Babbicombe, Dr. Greville. Bickington Churchyard. Teignmouth. Walls about Torquay and near Plymouth, Rev. Mr. Tozer.

2. *O. cupulatum*, leaves lanceolate, slightly spreading; caps. subsessile; peristome of 16 double teeth; calyptra slightly hairy. Musc. Brit. p. 72.—E. B. t. 1423. (*O. anomalum*.) and 1325. (*O. nudum*.)

HAB. Trees at Ilington. Trees at Oakhampton.

### b. Peristome with 8 ciliæ.

3. *O. crispum*, leaves lanceolate-subulate, crisped when dry; fr. stalks very long; caps. striate; calyptra very hairy. Musc. Brit. p. 73.

HAB. On trees, abundant.

4. *O. Hutchinsia*, leaves lanceolate, erect, nearly straight when dry; fr. stalks long; caps. striate; calyptra very hairy. Musc. Brit. p. 73.

HAB. Rocks on both sides the Plym, above Dewerstone Rocks, Rev. Mr. Tozer.

5. *O. affine*, leaves broadly lanceolate, patent; caps. sessile; calyptra slightly hairy. Musc. Brit. p. 74. E. B. t. 1323.—E. B. t. 2168. (*O. pumilum*.)

HAB. On trees, common. *O. pumilum* is a small var. with a glabrous calyptra.



## c. Peristome with 16 ciliæ.

6. *O. diaphanum*, stems short; leaves lanceolate, acuminate, points diaphanous; caps. sessile; calyptra slightly hairy. Musc. Brit. p. 74.

HAB. On trees, common.

7. *O. pulchellum*, stems short; leaves narrow-lanceolate, patent, crisped when dry; peduncles exserted; calyptra slightly hairy. Musc. Brit. p. 75.

HAB. Trees at North Bovey. Harberton and Meavy, Rev. Mr. Tozer. The outer teeth of the peristome are of a fine red.

8. *O. rivulare*, stems elongated, much branched; leaves broadly lanceolate, obtuse; caps. sessile; calyptra smooth. Musc. Brit. p. 75.

HAB. Rocks in the Avon, between New Bridge and Diptford, Rev. Mr. Tozer.

9. *O. striatum*, stems elongated, branched; leaves lanceolate, patent, slightly twisting when dry; caps. sessile, ovate, smooth; peristome with torulose ciliæ; calyptra slightly hairy. Musc. Brit. p. 75.

HAB. On trees, frequent. Near Exeter, Ilington, South Tawton, Totness, &c.

10. *O. Lyellii*, stems elongated, much branched; leaves long, linear-lanceolate, recurved, much crisped when dry; caps. oblong, striate; peristome with broadish, distinctly jointed ciliæ. Musc. Brit. p. 76.

HAB. Trees near Oakhampton. Lydford Fall. In an orchard at Yaal Farm, near North Bovey. Orchard at Meavy Parsonage, in fruit, Rev. Mr. Tozer.

## 22. NECKERA.

1. *N. pumila*, leaves ovate, acuminate, slightly concave, margins recurved; peduncles scarcely longer than perichaetial leaves; caps. oblong, ovate. Musc. Brit. p. 77. t. 22.

HAB. On trees, frequent. North Bovey. Gidley Park. Ilington Woods. Woods about Meavy, abundant, Rev. Mr. Tozer.

2. *N. crispa*, leaves oblong, pointed, transversely wrinkled; peduncles much exserted; caps. ovate. Musc. Brit. p. 78.

HAB. Near Babbicombe, abundant, Dr. Greville. Lydford Fall. Ugbrooke Park. Near Plymouth and Torquay, in fruit Rev. Mr. Tozer.

## 23. ANOMODON.

1. *A. curtispiculum*, leaves ovate, acuminate, serrulate; nerve disappearing below the point; perichaetial leaves with a

short nerve; peduncles twice the length of the perichæcium; caps. ovate. Musc. Brit. p. 79.—E. B. t. 1444. (*Neckera*.)

HAB. Dartmoor Tors, common. Wistman's Wood, in fruit, Rev. Mr. Tozer.

Remarkable for the long, round, straggling, blackish-green stem. Mr. Tozer observes, that the best specific distinction between this and the next species is to be found in the perichæcial leaves.

2. *A. viticulosum*, leaves ovate-lanceolate, obtuse, entire, the nerve reaching to the point; perichæcial leaves with a long incrassate nerve; peduncles very long; caps. cylindrical. Musc. Brit. p. 80.—E. B. t. 265. (*Hypnum*.)

HAB. Walls of Ugbrooke Park. Near Totness, and on Meavy Bridge, in fruit, Rev. Mr. Tozer.

#### 24. DALTONIA.

1. *D. heteromalla*, leaves broadly ovate, acute; caps. sessile, immersed; calyptra nearly entire. Musc. Brit. p. 81. t. 22.

HAB. In streams, frequent. Ugbrooke Park. About Exeter, Lympstone, Totness, &c.

#### 25. FONTINALIS.

1. *F. antipyretica*, leaves nerveless, mostly folded, keeled. Musc. Brit. p. 82. t. 22.

HAB. In streams, frequent. River Exe by Wear village. Streams at Ilington, Moreton, Totness, &c.

2. *F. squarrosa*, leaves nerveless, plane, or slightly concave. Musc. Brit. p. 82.

HAB. In rapid, hilly streams flowing from Dartmoor, frequent. In the river between the bridges at North Bovey. Lustleigh Cleve. In the Teign at Chagford and Dunsford. In the stream near Prince Town, and below Meavy Bridge, in fruit. Rev. Mr. Tozer.

#### 26. BARTRAMIA.

##### a. Peduncles long, straight.

1. *B. pomiformis*, leaves patent, subulate, strongly serrate; nerve reaching to the point, twisted when dry. Musc. Brit. p. 85. E. B. t. 998.

β. *major*, stems long, branched; leaves longer, crisped. E. B. t. 1526. (*B. crispa*.)

HAB. Hedges, &c. common. β. In the neighbourhood of Dartmoor.

2. *B. fontana*, stems fastigate; leaves closely imbricate, rigid, erect, broadly ovate, or lanceolate, pointed, plane, serrate; peduncles lateral from innovations. Musc. Brit. p. 87.

α. *major*, stems 3-6 inches; leaves broadly ovate. E. B. t. 390 (*Bryum fontanum*.)

*β. marchina*, stems half inch to 1 inch; leaves lanceolate. E. B. t. 2074. (*B. marchina*.)

HAB. Wet, boggy places, frequent. Haldon, Dartmoor, &c.

*b. Peduncles short, curved.*

3. *B. arcuata*, stems elongated, proliferous; leaves horizontal, ovate-lanceolate, acuminate, serrate, striate; caps. smooth. Musc. Brit. p. 88.

HAB. Bogs on Hightor Down. Kitt's Fall near Lidford, abundant. Cawsand Hill, Dr. Greville. Near Meavy, common, Rev. Mr. Tozer.

## 27. HOOKERIA.

1. *H. lucens*, leaves broadly ovate, entire, obtuse, nerveless. Musc. Brit. p. 89. t. 27.

HAB. Banks of streams, wet places, &c. not uncommon. Ilsington, North Bovey, Hounter Wood near Manaton, Beckey Fall, Lydford Fall.

## 28. HYPNUM.

A. Stem (taken in conjunction with the leaves) plane.

1. *H. trichomanoides*, leaves broadly scymetar-shaped, serrate at the point, nerve reaching half way; caps. ovate, erect; lid rostrate. Musc. Brit. p. 91. t. 24.

HAB. On trees, frequent, Lydford Fall, Lower part of Bagtor Wood, Ilsington.

The remarkable curvature of the leaf is peculiar to this species.

2. *H. complanatum*, leaves oblong, pointed, nerveless, entire; caps. ovate, erect; lid rostrate. Musc. Brit. p. 91.

HAB. On trees, common.

3. *H. riparium*, leaves ovate-lanceolate, acuminate, entire, nerve nearly reaching the point; caps. oblong, cernuous; lid conical. Musc. Brit. p. 92.

HAB. In the River Dart near Totness, Rev. Mr. Tozer. In a ditch between Heavitree and Exeter; and in a stream at Bicton, Miss Dale.

4. *H. undulatum*, leaves ovate, acute, transversely undulate, with 2 faint nerves at the base; caps. oblong, furrowed, arcuate, cernuous; lid rostrate. Musc. Brit. p. 92.

HAB. Rora Wood near Ilsington. Northwood, Dartington, and near Meavy, Rev. Mr. Tozer.

5. *H. denticulatum*, leaves ovate, occasionally inclining to lanceolate, pointed, with 2 short nerves at the base; caps. oblong, cylindrical, inclined; lid conical. Musc. Brit. p. 92.

*α.* leaves ovate, lanceolate, quite plane. E. B. t. 1260.

β. leaves ovate, rather obtuse, slightly concave. E. B. t. 1446. (*H. Donnianum*.)

HAB. Woods, not unfrequent. Ilington, Manaton, &c.

B. Stems (in conjunction with the leaves) rounded.

τ. Leaves not secund, uniform in their direction.

6. *H. medium*, leaves ovate, obtuse, concave, entire, nerve reaching to the point; caps. cylindrical, sub-erect; lid conical. Musc. Brit. p. 93.

HAB. Trees, near Exeter.

7. *H. tenellum*, leaves fascicled, erect, lanceolate-subulate, entire, nerve reaching to the point; caps. ovate, cernuous; lid rostrate. Musc. Brit. p. 93.

HAB. Walls of Ugbrooke Park. Wall by the foot-path, leading from Torquay to Tor Abbey Sands.

8. *H. serpens*, leaves ovate-lanceolate, rather obtuse, patent, entire, nerve mostly reaching to the point; caps. cylindrical, curved, cernuous; lid conical. Musc. Brit. p. 94.

HAB. Trunks of trees, &c. common.

9. *H. populeum*, leaves lanceolate, acuminate, serrate, margin slightly reflexed, nerve reaching to the point; fruit-stalk rough; caps. ovate, sub-erect; lid conical. Musc. Brit. p. 94.

HAB. Trees, hedges, &c. common.

10. *H. Schreberi*, leaves closely imbricate, nearly erect, elliptical, pointed, concave, entire, faintly 2-nerved at the base; caps. ovate, cernuous; lid conical. Musc. Brit. p. 96.

HAB. Dartmoor, Haldon, &c. common, but seldom in fruit.

11. *H. stramineum*, leaves loosely imbricate, slightly spreading, oblong-ovate, obtuse, entire, nerved half way; caps. oblong-ovate, curved, cernuous; lid conical. Musc. Brit. p. 97.

HAB. In bogs at Rora, near Ilington.

12. *H. murale*, leaves imbricate, sub-erect, oval, with a short point, concave, entire, nerved half way; caps. ovate, cernuous; lid rostrate. Musc. Brit. p. 97. E. B. t. 1038. (*H. confertum*.)

HAB. On old walls, about Exeter.

13. *H. purum*, leaves closely imbricate, oval, with a very short point, concave, nerved half way; caps. ovate, cernuous;



lid conical. Musc. Brit. p. 98. E. B. t. 1599. and 2189. (*H. illecebrum*.)

HAB. In shady wet places, common.

14. *H. plumosum*, leaves ovate-lanceolate, pointed, subseriate, nerved more than half way, slightly spreading, upper ones sometimes secund; caps. ovate, cernuous; lid conical. Musc. Brit. p. 98. E. B. t. 2071. and 1496. (*H. alpinum*.)

HAB. Rora Wood, near Ilington.

15. *H. pulchellum*, leaves lanceolate, acuminate, entire, nerveless, loosely imbricate, upper ones subsecund; caps. ovate-cylindrical, sub-erect; lid conical. Musc. Brit. p. 99.

HAB. Court Wood, near Ilington.

16. *H. sericeum*, leaves slightly spreading, lanceolate, acuminate, entire, striate, nerved three-fourths the length; fruit-stalks rough; caps. ovate-cylindrical, erect; lid conical. Musc. Brit. p. 100. t. 25.

HAB. Trees, walls, rocks, &c. common.

17. *H. lutescens*, leaves slightly spreading, lanceolate, acuminate, entire, striate, nerve disappearing below the point; fruit-stalks rough; caps. ovate, cernuous; lid conical, acuminate. Musc. Brit. p. 100.

HAB. On banks and trees, frequent.

18. *H. alopecurum*, stems erect, simple and naked below, fascicled above; leaves concave, ovate-elliptical, acute, serrate; nerve nearly to the point, margin reflexed; caps. ovate, cernuous; lid rostrate. Musc. Brit. p. 101.

HAB. Woods, sides of streams, &c. common.

$\beta$ . branched from the base, branches longer, leaves shorter and more closely set.

HAB. In running streams. On the Rocks in Flat Wood, Meavy, common, Rev. Mr. Tozer.

19. *H. dendroides*, stem erect, simple and naked below, fascicled above; leaves ovate or lanceolate, striate, serrate at the point, nerved nearly to the tip; caps. erect, ovate-cylindrical; lid rostrate. Musc. Brit. p. 101.

HAB. Dartmoor. Banks of the Dart between Staverton and Hood Bridge.

20. *H. curvatum*, branches curved, fascicled; leaves ovate elliptical, concave, points serrate; nerve not reaching to the middle; caps. ovate, erect; lid rostrate. Musc. Brit. p. 102.

HAB. Trees and hedges, common.



21. *H. myosuroides*, branches curved, fascicled; leaves lanceolate, acuminate, serrate, margins reflexed at the base, nerved half way; caps. ovate-cylindrical, erect; lid rostrate. *Musc. Brit.* p. 102.

HAB. Trees and rocks, common.

22. *H. splendens*, stems tripinnate; leaves ovate, with a suddenly acuminate serrate point, concave, faintly 2-nerved at the base, margin below recurved; caps. ovate, cernuous; lid rostrate. *Musc. Brit.* p. 103.

HAB. Woods, heaths, &c. common.

23. *H. proliferum*, stems tripinnate; leaves serrate, papillose on the back; stem leaves cordate, acuminate, striate, nerved nearly to the point, those of the branches more ovate, with a single or double nerve at the base. *Musc. Brit.* p. 103. E. B. t. 1494.—E. B. t. 1495. (*H. recognitum*.)

HAB. Hedges, woods, heaths, &c. common.

24. *H. praelongum*, stems nearly bipinnate; leaves distantly placed, patent, cordate or ovate, acuminate, serrate, nerve not to the end; caps. ovate, cernuous; lid rostrate. *Musc. Brit.* p. 103. E. B. t. 2035.—E. B. t. 2036. (*H. Stokesii*.) and 2034. (*H. Swartzii*.)

HAB. Shady banks, roots of trees, &c. common.

25. *H. piliferum*, stems subpinnate; leaves ovate, with a long narrow point, serrated, nerve not reaching the middle; caps. ovate, cernuous; lid rostrate. *Musc. Brit.* p. 105.

HAB. In hedges, occasionally, the fruit rare. Ilington; Manaton.

26. *H. rutabulum*, stems variously branched; leaves patent, ovate, acuminate, striate, points serrate, nerved half way; fruit-stalk rough; caps. ovate, cernuous; lid conical. *Musc. Brit.* p. 105.—E. B. t. 1647. (*H. brevirostre*.) and 1261. (*H. crenulatum*.)

HAB. Trees and hedges, common.

27. *H. velutinum*, stems variously branched; leaves slightly spreading, ovate-lanceolate, acuminate, serrate, striate, nerved half-way; fruit-stalk rough; caps. ovate, cernuous; lid conical. *Musc. Brit.* p. 105. E. B. t. 1568. and 2421. (*H. intricatum*.)

HAB. Woods and hedges, common.

Differs from the last in the smaller size, narrower leaves, and their more upright direction.

28. *H. ruscifolium*, stems variously branched; leaves loosely

imbricate, spreading, broadly ovate, acute, serrate, concave, nerved nearly to the point; caps. ovate, cernuous; lid rostrate. Musc. Brit. p. 106.

HAB. On rocks and stones in streams, common.

29. *H. striatum*, stems variously branched; leaves patent, cordate, acuminate, serrate, striate, nerved beyond the middle; fruit-stalks smooth; caps. ovate, cernuous; lid rostrate. Mus. Brit. p. 106.

HAB. Woods and hedges, frequent.

30. *H. confertum*, stems variously branched; leaves slightly spreading, ovate, acuminate, concave, serrate, nerved half way; fruit-stalk smooth; caps. ovate, cernuous; lid rostrate. Musc. Brit. p. 106. E. B. t. 2407. and 1262. (*H. serratum*.)

HAB. Trees and hedges, frequent. Ilslington. Plantation on the Beacon, Exmouth, Mr. Jacob.

τ τ. Leaves squarrose.

31. *H. cuspidatum*, leaves loosely set, ovate, concave, nerveless, entire, the lower squarrose, those near the end closely imbricated into a cuspidate point; caps. oblong, curved, cernuous, lid conical. Musc. Brit. p. 107. t. 26.

HAB. Bogs and wet fields, common.

32. *H. cordifolium*, leaves loosely set, cordato-ovate, obtuse, concave, entire, nerved nearly to the point; caps. oblong, curved, cernuous; lid conical. Musc. Brit. p. 107.

HAB. Bogs on Haldon.

33. *H. stellatum*, leaves loosely set, cordate, much acuminate, entire, nerveless; caps. oblong-ovate, curved, cernuous; lid conical. Musc. Brit. p. 108. E. B. t. 1302.

β. *minus*, smaller, and of a greener tint, leaves more recurved. E. B. t. 1709. (*H. squarulosum*.)

HAB. Penn Wood, near Ilslington. β. Boggy banks of the Dart, above Hood Bridge, Rev. Mr. Tozer.

34. *H. loreum*, leaves recurved, lanceolate, much acuminate, concave, serrate, striate, faintly 2-nerved at the base; caps. globose-ovate, cernuous, lid conical. Musc. Brit. p. 108.

HAB. Woods, heaths, &c. common.

35. *H. triquetrum*, leaves cordate, acuminate, tapering gradually, nearly plane, striate, faintly 2-nerved at the

base; caps. globose-ovate; lid short, conical. *Musc. Brit.* p. 108.

*HAB.* Woods, hedges, &c. abundant.

A robust plant, with pinnate stems, 6-12 inches long.

36. *H. brevirostre*, leaves broadly ovate, concave, not striate, suddenly acuminate into a long hair-like and serrulated point, base 2-nerved; caps. ovate; lid conical. *Hook. Fl. Scot.* p. 146.—*Musc. Brit.* p. 108. (*H. triquetrum*,  $\beta$ .)

*HAB.* Flat and Parson's Wood, Meavy, Rev. Mr. Tozer.

Not half the size of the last, of a more slender and straggling habit. The leaves much smaller and more serrated.

37. *H. squarrosus*, leaves widely cordate, very much acuminate and recurved, serrate, faintly 2-nerved at the base; caps. ovate-globose, cernuous; lid conical. *Musc. Brit.* p. 108.

*HAB.* Woods and heaths, common. In fruit at the back of the Dartmoor Prison.

rrr. Leaves secund.

38. *H. filicinum*, stems subpinnate; leaves (especially the upper) falcate, secund, broadly ovate, acuminate, serrate, nerve reaching to the point; caps. oblong-ovate, curved, cernuous; lid conical. *Musc. Brit.* p. 109. *E. B. t.* 1570. *E. B. t.* 2126. (*H. dubium*,) and 2127. (*H. fallax*.)

*HAB.* South Tawton, at the Lime quarries, Dr. Greville. Banks of the Dart, above and below Hood Bridge, Rev. Mr. Tozer. In bogs, frequent. Bovey Heathfield, Haldon, &c.

39. *H. atrovirens*, stems variously branched, procumbent; leaves all slightly secund, broadly ovate, with an attenuated obtuse point, nerved nearly to the end; caps. ovate, cernuous; lid conical. *Musc. Brit.* p. 109. *E. B. t.* 2422.—*E. B. t.* 2420. (*H. attenuatum*.)

*HAB.* About Ilstington.

40. *H. palustre*, leaves secund, ovate, pointed, concave, entire, margins incurved above, nerve short, often forked, occasionally obsolete; caps. oblong-ovate, cernuous; lid conical. *Musc. Brit.* p. 110. *E. B. t.* 1665. and also 1303. (*H. fluviatile*,) and 2406. (*H. adnatum*.)

*HAB.* Bogs and sides of streams, frequent. Bovey Heathfield; Dartmoor, near Princetown; banks of the Dart, &c. A variable plant.

41. *H. fluigans*, leaves lanceolate-subulate, loosely imbricate, upper ones falcate, secund, nerved more than half way;

caps. ovate, oblong, curved, cernuous, lid conical. Musc. Brit. p. 98.

HAB. Pools on the banks of the river below North Bovey. Dartmoor, Dr. Greville. Pits near the source of the Plym, Rev. Mr. Tozer.

42. *H. aduncum*, leaves falcate, secund, lanceolate-subulate, concave, entire, nerve shorter than the point; caps. oblong-ovate, curved, cernuous; lid conical. Musc. Brit. p. 111.

*α. revolvens*, leaves narrow and very falcate. E. B. t. 2073. (*H. revolvens*.)

*β. rugosum*, leaves wider, less falcate and rather rugose. E. B. t. 2250. (*H. rugosum*.)

HAB. Bogs on Dartmoor. Source of Tory Brook, on Crouch Moor, Rev. Mr. Tozer.

43. *H. uncinatum*, leaves falcate, secund, lanceolate-subulate, serrate, striate, nerve not reaching to the point; caps. cylindrical, curved, cernuous, lid conical. Musc. Brit. p. 111.

HAB. Hedges, not unfrequent. North Bovey. Manaton. Ilsington. Parson's Wood, Meavy, Rev. Mr. Tozer.

44. *H. commutatum*, stem pinnated, leaves falcate, secund, cordate, very acuminate, serrate, margins reflexed, nerve not reaching to the point; caps. oblong-ovate, curved, cernuous; lid conical. Musc. Brit. p. 112.

HAB. Near Shaugh Bridge, Rev. Mr. Tozer.

45. *H. scorpioides*, leaves secund, broadly ovate, ventricose, entire, nerveless; caps. oblong-ovate, curved, cernuous; lid conical. Musc. Brit. p. 112.

HAB. In the Dartmoor bogs. Source of Tory Brook, on Crouch Moor, Rev. Mr. Tozer.

46. *H. cupressiforme*, leaves closely imbricate, falcate, secund, lanceolate, acuminate, serrate at the point only, faintly 2-nerved at the base; caps. cylindrical, erect, cernuous; lid conical, with a point. Musc. Brit. p. 113.

*α. vulgaris*, stems broad, semicylindrical. E. B. t. 1860.

*β. compressum*, stems slender, compressed.

*γ. tenue*, stems very slender, leaves but slightly curved, narrow, lanceolate, and quite entire. E. B. t. 1664. (*H. polyanthos*.)

HAB. Banks, trees, rocks, &c. common. *γ.* is less frequent,

47. *H. molluscum*, stems pectinate; leaves falcate, secund, cordate, much acuminate, not striate, serrate, faintly 2-nerved at the base; caps. oblong-ovate, curved, cernuous; lid conical. Musc. Brit. p. 114.

HAB. Heaths, &c. common. Haldon; Dartmoor.

Mr. Tozer remarks that the calyptra of this moss is sub-pilose, a circumstance that has not previously been noticed.

## 29. BRYUM.

### a. Capsules furrowed.

1. *Br. androgynum*, stems nearly simple; leaves lanceolate, serrate, margins recurved; caps. sub-erect, cylindrical; lid conical. Musc. Brit. p. 115. t. 28.—E. B. t. 1238. (*Mnium*.)

HAB. On a moist bank, near Heavitree, Mr. Jacob.

2. *Br. palustre*, stems much branched; leaves lanceolate, obtuse, entire, margins revolute; caps. ovate, oblique; lid conical. Musc. Brit. p. 115.

HAB. In bogs, common. Hightor Down. Dartmoor, &c.

### b. Capsules smooth.

3. *Br. crudum*, stems simple; leaves rigid, lanceolate, the upper narrowest and longest, all plane and subulate, nerve disappearing below the point; caps. oblong, somewhat pear-shaped, cernuous. Musc. Brit. p. 119.

HAB. We have gathered this on Dartmoor, but have mislaid the particular habitat.

4. *Br. carneum*, stems simple; leaves lanceolate, reticulate, slightly serrulate at the point, nerve disappearing below the point; caps. obovate, pendulous. Musc. Brit. p. 119. t. 29.

HAB. On the ground in a wet clayey field at Rora, near Ilington. On a moist bank of the Dart, half a mile above Hood Bridge, Rev. Mr. Tozer.

5. *Br. Tozeri*, stem short, simple, erect; leaves remote, spreading, obovate, entire, cuspidate, margined, loosely reticulated, the nerve vanishing beyond the middle; caps. nodding, somewhat pear-shaped. Grev. Crypt. Fl. t. 285.

HAB. First discovered by the Rev. Mr. Tozer, on a moist bank, composed of a mixture of sand and clay, by the river Dart, about four miles above Totness.

Plant succulent, altogether not more than half an inch in length; stem naked below, very slender; leaves spreading, remote, not more than 6-8, of a pale-reddish colour, obovate, entire, cuspidate, margined, of a most delicate loosely reticulated structure; nerve rather strong, in the upper leaves



extending about two-thirds of their length, in the lower ones vanishing about the middle; the margin and nerve are of a dark red colour; fruit-stalk a quarter of an inch in length; capsule small, dark-brown, obovate, or somewhat pyriform, nodding; the lid convex-conical; teeth of the outer peristome yellow, as long as the inner peristome, which has no (?) ciliary processes between the segments. Mr. Tozer observes, that to the naked eye it strongly resembles *Bryum carneum* in habit, while, under the microscope, no species can be farther removed in its foliage from that moss.

6. *Br. argenteum*, stems branched; leaves closely imbricate, broadly ovate, suddenly acuminate, sub-serrulate, concave, nerve not reaching the point; caps. ovate-pyriform, pendulous. Musc. Brit. p. 120. t. 29.

HAB. On walls, roofs, &c. common, in silvery dense tufts.

7. *Br. roseum*, leaves obovate, spathulate, acute, serrate, undulate, nerved to the point; caps. oblong-ovate, pendulous. Musc. Brit. p. 120. t. 29.

HAB. Hedges and woods, frequent. Moreton. North Bovey. Ilington, &c. The fruit extremely rare. Near Meavy, and near Shaugh Bridge, in fruit, Rev. Mr. Tozer.

8. *Br. capillare*, stems short; leaves obovate, entire, nerve produced into a hair-like point, margins slightly thickened, twisted when dry; caps. oblong, pendulous. Musc. Brit. p. 121.

HAB. Hedges, banks, &c. common.

9. *Br. caespitium*, stems short; leaves ovate, acuminate, entire, or obscurely serrate at the points; margins slightly recurved, nerved to or beyond the point; caps. ovate-pyriform, pendulous. Musc. Brit. p. 121.

*α. major.* E. B. t. 1904.

*β. minor.* E. B. t. 1601. (*Br. bicolor.*)

HAB. Banks, roofs, walls, &c. common, in dense tufts.

10. *Br. turbinatum*, stems short, branched with innovations; leaves ovate, acuminate, sub-entire, margins slightly recurved, nerve excurrent; caps. elongated, pyriform, pendulous. Musc. Brit. p. 122. E. B. t. 1572.—E. B. t. 1528. (*B. nigricans.*)

HAB. Near Kestor, on Dartmoor. Bogs on Hightor Down. Near Whiteworks on Dartmoor, Rev. Mr. Tozer.

11. *Br. nutans*, stems short; leaves erect, lanceolate, acuminate, serrate above, nerved to the point; caps. oblong-pyriform, pendulous. Musc. Brit. p. 123. E. B. t. 1240. and 1527? (*Br. compactum.*)

HAB. In a bog near a Druidical circle at Kestor, and on Cawsand. In a drain near Peak Tor, Rev. Mr. Tozer.

Distinguished by the narrow glossy leaves and bright-red fruit-stalks.

12. *Br. elongatum*, stems short; leaves erect, elongate, lanceolate, acuminate, serrate, nerved to the point; caps. elongate, clavate, inclined. Musc. Brit. p. 123. E. B. t. 1603.

HAB. Dartmoor, near Wild Tor.

13. *Br. alpinum*, stems elongate, branched, rigid; leaves closely imbricate, erect, lanceolate, obtuse, subserrulate at the point, margins revolute, nerve reaching to the point; caps. oblong-ovate, pendulous. Musc. Brit. p. 124.

HAB. On rocks and exposed situations, common; fruit rare. Hightor Down, in fruit.

Distinguished by its dark shining purple-colour and stiff habit.

14. *Br. ventricosum*, stems elongated, branched with innovations; leaves oblong, pointed, sub-entire, margins recurved, nerve excurrent; caps. oblong-obovate, pendulous. Musc. Brit. p. 124. E. B. t. 2270. and 1518. (*Br. binum*.) and 2554, (*Br. cubitale*.)

HAB. Bogs, not unfrequent. Dartmoor. Bovey Heathfield. Ditch at Exwick, near Exeter, Miss Dale.

15. *Br. punctatum*, stems elongate, leaves obovate, rounded, very obtuse, reticulate, margins thickened, entire, nerve not reaching to the point; caps. ovate, pendulous; lid shortly rostrate. Musc. Brit. p. 125.

HAB. Wet places, banks of streams, &c. common.

16. *Br. ligulatum*, stems elongated; leaves undulate, ligulate, reticulate, margins thickened, toothed, nerve excurrent; caps. ovate, pendulous; lid conical. Musc. Brit. p. 126.

HAB. Damp shady situations, common.

17. *Br. rostratum*, stems elongated; leaves broadly ovate, obtuse, reticulate, margins thickened, toothed, nerve excurrent; caps. ovate, pendulous; lid rostrate. Musc. Brit. p. 126.

HAB. Tor Mill, Harberton, Rev. Mr. Tozer. Stones in Ugbrooke Park, Mr. Jacob.

18. *Br. marginatum*, stems elongated; leaves ovate, acute, reticulate, margins thickened, serrate, nerve excurrent; caps. ovate, pendulous; lid shortly rostrate. Musc. Brit. p. 126.

HAB. Near Woodbury, Miss Dale. Near Meavy, Rev. Mr. Tozer.

19. *Br. hornum*, stems elongated; leaves lanceolate, acute, reticulate, margins thickened, toothed, nerve mostly not reaching to the point; caps. oblong-ovate, pendulous; lid hemispherical, with a short point. *Musc. Brit.* p. 127. t. 31.

HAB. Wet places, frequent.

20. *Br. cuspidatum*, stems elongate; leaves obovate, acute, reticulate, margins thickened, toothed above, nerve excurrent; caps. ovate, pendulous; lid conical, obtuse. *Musc. Brit.* p. 127. t. 31.

HAB. Bogs and wet places, frequent.

## XI. FILICES.

### DIV. 1. ANNULATÆ.

#### 1. GRAMMITIS.

1. *G. ceterach*, (*common scaly Spleenwort*,) fronds pinnatifid, covered with imbricate, chaffy scales beneath; segments confluent, obtuse, entire; scales entire. *Swartz. Syn. Fil.* 23. E. B. t. 1244. (*Scolopendrium ceterach*.) *With. Bot. Arr.* 767. (*Asplenium ceterach*.)

HAB. Fissures of rocks and on old walls, occasionally. Near Topsham. Babbicombe. Church-yard walls at Chudleigh and IIsington. Fl. April—October. ♀

Frond 5-6 inches long, lanceolate, spreading, smooth above, lobes mostly alternate.

#### 2. POLYPODIUM.

1. *P. vulgare*, (*common Polypody*,) stem chaffy; fronds deeply pinnatifid, segments linear-lanceolate, obtuse, crenulate, approximate, upper ones gradually smaller. E. B. t. 1149.

HAB. Walls, hedges, trunks of old trees, &c. common. Fl. May—October. ♀

2. *P. phegopteris*, (*pale mountain Polypody*,) fronds bipinnatifid, the 2 lower pinnæ deflexed, segments linear-lanceolate, obtuse, entire, ciliate, lower ones adnato-decurrent, veins hairy; sori marginal. E. B. t. 2224.

HAB. Lidfard Fall. Beckey Fall. Dartmoor. Fl. June, July. ♀

Frond erect, pale-green, 1-2 feet high; stem long, hairy, and scaly.

#### 3. ASPIDIUM.

1. *A. Thelypteris*, (*marsh Shield-fern*,) fronds pinnate, pinnæ linear lanceolate, pinnatifid, glabrous, segments ovate, acute, entire; sori marginal, contiguous, at length confluent.



Swartz. Syn. Fil. 50.—E. B. t. 509, and With. Bot. Arr. 776.  
(*Polypodium Thelypteris*.)

HAB. Marshy and boggy situations. Fl. July. 2

Stipes smooth; frond 1-2 feet high, lanceolate; sori numerous, and when mature, covering the whole surface.

2. *A. cristatum*, stipes chaffy; fronds pinnate, pinnae subcordate, oblong, pinnatifid, segments oblong, obtuse, dentato-serrate. Swartz. Syn. Fil. 52. E. B. t. 2125.

HAB. Wet shady situations. Fl. June, July. 2

3. *A. aculeatum* (common prickly Shield-fern,) stipes and rachis chaffy; fronds bipinnate, pinnules rigid, ovate, subulate, acuminate, aristate, oblique and cuneate at the base, decurrent, margins faintly serrate, spinulose, with a tooth near the base on the upper side; sori scattered. E. B. t. 1562.—With. Bot. Arr. 777. (*Polypodium aculeatum*.)

HAB. Wet shady situations, occasionally. Ilington. Kingsteignton. Dartmoor. Torquay, Dr. Greville. Fl. June. 2

2 or more feet high, dark green. This and the next are probably vars. of the same species.

4. *A. lobatum*, (close-leaved prickly Shield-fern,) stipes and rachis chaffy; fronds bipinnate, pinnules ovate, obtuse, mucronate, serrate, aristate, those next the main rib larger, eared. E. B. t. 1563.

HAB. Shady banks, frequent. Fl. June. 2

Differs from the last in the broader and less rigid frond; in the differently shaped and petioled pinnules, and deeply serrate margins.

5. *A. filix mas*, (male Fern,) stipes and rachis chaffy; frond bipinnate pinnules oblong, obtuse, finely serrate; sori near the middle rib. E. B. t. 1458. and 1949. (*Aspidium cristatum*.)

HAB. Shady situations, common. Fl. June, July. 2

6. *A. dilatatum*, (great crested Shield-fern,) stipes chaffy; fronds bipinnate, segments mucronate, serrate. E. B. t. 1461. Fl. Ang. 457. (*Polypodium cristatum*.)

HAB. Wet bottoms about Ilington. Lidford Fall, Dr. Greville. Fl. June, July.

2 or more feet high, light green; sori numerous, very distinct.

7. *A. spinulosum*, (lesser crested Shield-fern,) stipes chaffy; fronds bipinnate, pinnules oblong, decurrent, confluent, incised-dentate, segments mucronato-serrate; invol. glandular. Swartz. Syn. Fil. 51. E. B. t. 1460?

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HAB. Wood near Dunsford Bridge, Mr. Jacob. Near Torquay, Dr. Greville. Fl. June, July. 2

About a foot high, on a long stem, smooth, light-green, thin, nearly transparent; sori small, distant.

8. *A. filix fœmina*, (*female Shield-fern*,) fronds bipinnate, pinnules oblong, lanceolate, inciso-serrate, serratures bi- or tridentate, acute; sori oblong, straight. Swartz. Syn. Fil. 54. E. B. t. 1459.

HAB. Wet banks, &c. common. Fl. June, July. 2

Frond deep green; involucre lateral, kidney-shaped, margin lacerated.

9. *A. fragile*, (*brittle Cup-fern*,) fronds bipinnate, pinnules oblong, obtuse, inciso-serrate, serratures obtuse, denticulate; rachis winged. Swartz. Syn. Fil. 58. E. B. t. 1587. (*Cyathea fragilis*.)

HAB. On a wet rock at Exwick near Exeter, Mr. Jacob. Fl. June, July. ☉

4. ASPLENIUM.

1. *A. marinum*, (*sea Spleenwort*,) fronds pinnate, pinnules oblong, obtuse, inciso-serrate, the base rounded and sub-auricle above, truncated below. E. B. t. 392.

HAB. Cliffs on the sea-coast, frequent. Teignmouth. Dawlish, &c. Fl. June—September. 2

2. *A. trichomanes*, (*common Maiden-hair Spleenwort*,) fronds pinnate, pinnules roundish, oblong, obtuse, crenate, truncato-cuneate at the base. E. B. t. 576.

HAB. Rocks, old walls, &c. common. Fl. throughout the year. 2

3. *A. ruta-muraria*, (*Wall-rue Spleenwort*,) fronds bipinnate at the base, pinnules cuneate, obtusely toothed at the end. E. B. t. 150.

HAB. Rocks, old walls, &c. frequent. Fl. June—October. 2

4. *A. adiantum nigrum*, (*black Maiden-hair Spleenwort*,) fronds bipinnate, pinnæ oblong-lanceolate, acute, pinnules oblong, inciso-pinnatifid, segments toothed at the end; sori at length confluent. E. B. t. 1950.

HAB. Hedges, trunks of old trees, &c. frequent. Fl. June—October. 2

Frond erect, about a foot high, acute, dark-green, smooth.

5. SCOLOPENDRIUM.

1. *S. vulgare*, (*Hart's-tongue*,) E. B. t. 1150.—With. Bot. Arr. 766. (*Asplenium scolopendrium*.)



110 ACOTYLEDONS. FILICES. OPHIOGLOSSUM.

HAB. Shady hedges, &c. common. Fl. July. 2  
Frond ligulate, acute, entire; cordate at the base, glabrous, paler beneath.

6. PTERIS.

1. *Pt. aquilina*, (*common Brakes*,) frond 3-parted, branches bipinnate; pinnæ linear, lanceolate; upper ones entire; lower ones pinnatifid, their segments oblong, obtuse. E. B. t. 1679. Fl. Scot. vol. ii. p. 156.

HAB. Hedges, fields, &c. common. Fl. July. 2

7. BLECHNUM.

1. *B. boreale*, (*rough Spleenwort*,) sterile fronds pinnatifid, segments lanceolate, obtuse, parallel; fertile fronds pinnate, pinnæ linear, acuminate. E. B. t. 1159.

HAB. Shady hedges, &c. common. Fl. July. 2

8. HYMENOPHYLLUM.

1. *H. Tunbridgense*, (*filmy-leaved Fern*,) fronds bipinnatifid, glabrous, the segments linear, undivided or bifid, spinuloso-dentate. E. B. t. 162.

HAB. Clefts of the rocks at Wistman's Wood, Dartmoor. Rocks by Dunsford Bridge, Beckey Fall, &c. Fl. May, June. 2

2 or 3 inches high, dark-green, membranaceous, transparent.

DIV. 2. EXANNULATÆ.

9. OSMUNDA.

1. *O. regalis*, (*Flower Fern*,) fronds bipinnate, pinnules lanceolate, sub-entire, lower ones opposite, subauricled at the base; fructifying panicle at the end of the frond. E. B. t. 209.

HAB. Banks of streams, and wet, boggy situations, common. Fl. June, July. 2

3-5 feet high, tufted, smooth; the largest and finest British fern.

10. OPHIOGLOSSUM.

1. *O. vulgatum*, (*Adder's-tongue*,) frond ovate, obtuse, reticulate; spike cauline. E. B. t. 108.

HAB. Wet meadows, occasionally. Fl. May. 2

Root fibrous; frond simple, single, ovate, bearing the spike at the base.

## XII. LYCOPODINEÆ.

### 1. LYCOPodium.

1. *L. clavatum*, (*common Club-moss*,) stem creeping, branches ascending; leaves scattered, incurved, hair pointed; spikes mostly in pairs, cylindrical, pedunculate; bractæ ovate, acuminate, eroso-dentate. E. B. t. 224.

HAB. High heathy downs, &c. frequent. Dartmoor and adjoining downs, common. Haldon; Black Down, &c. Fl. July, August. 24

Stems frequently several feet in length, and leafy all round; the fertile branches erect, 4-5 inches high, terminated by 1-3 leafy spikes about an inch long.

2. *L. selago*, (*fir Club-moss*,) stems erect, fastigiate, dichotomously branched; leaves scattered in 8 rows, linear-lanceolate, acute, entire, imbricate, rigid; fruit scattered. E. B. t. 233.

HAB. Dartmoor, frequent. Woodbury Hill. Fl. June—August. 24

Stem leafy, 5-6 inches high; leaves thick, dark green, shining. Violently emetic.

## XIII. MARSILEACEÆ.

### 1. PILULARIA.

1. *P. globulifera*, (*Pillwort*.) E. B. t. 521. Hook. in Fl. Lond.

HAB. In wet places, occasionally inundated, rare. Lane between Gulliford Cross and Coombe Farm, near Lympstone, Miss Filmore. Fl. June, July. 24

Stems filiform, creeping, rooting; leaves subulate, filiform, clustered; involucre at the base of the leaves, brown, scaly, the size of a pea.

## XIV. EQUISETACEÆ.

### 1. EQUISETUM.

1. *E. arvense*, (*corn Horsetail*,) barren stems with simple, roughish, 4-sided branches; fertile stems simple, with cylindrical inciso-dentate sheaths. E. B. t. 2020.

HAB. Wet tillage fields, &c. common. Fl. March, April. 24

The barren stems higher and branched in all parts, the sheaths small; the fertile stems about 6 inches high, the sheaths long; the spike large and long, earlier than the barren ones.

112 ACOTYLEDONS. EQUISETACEÆ. EQUISETUM.

2. *E. fluviatile*, (*great water Horsetail*,) barren stems with simple, roughish, 8-sided branches; fertile stems simple, with funnel-shaped lacero-dentate sheaths, their teeth setaceous. E. B. t. 2022.

HAB. River banks, &c occasionally. Shaldon. Cliffs near Dawlish. Ilington. Kentisbeare. Fl. April—June. 24

3-4 feet high; stem large, branches very numerous, ascending.

3. *E. sylvaticum*, (*branched wood Horsetail*,) barren and fertile stems with compound, roughish, deflexed, 4-sided branches; branchlets sub-triquetrous. E. B. t. 1874.

HAB. Damp shady situations, frequent. Fl. April, May. 24

Root creeping, stem about a foot high, erect, much branched, with a peduncled terminal spike.

4. *E. limosum*, (*smooth naked Horsetail*,) stems branched above; branches about 12 in a whorl, simple, 5-sided, smooth, spike terminal. E. B. t. 929.

HAB. Wet places, frequent. Chudleigh, Ilington, &c. Fl. June. 24

Stem 2 or more feet high, naked below, smooth; branches few, erect; spike brown, large, ovate.

5. *E. palustre*, (*marsh Horsetail*,) stem branched, glabrous, furrowed; branches simple, 5-sided; spike terminal. E. B. t. 2021.

HAB. Boggy places, common. Fl. June, July. 24

Stem deeply furrowed, branched in every part; branches erect, long; sheaths greenish, edges white; spike blackish, slender, formed of a few large distant scales.

## II. MONOCOTYLEDONS.

### I. FLUVIALES.

#### 1. RUPPIA.

1. *R. maritima*, p. 31.—Salt marshes, rare.

#### 2. ZOSTERA.

1. *Z. marina*, p. 146.—Thrown up on the sea-shore, frequently.

#### 3. ZANNICHELLIA.

1. *Z. palustris*, p. 145.—In stagnant fresh water, rare.

#### 4. POTAMOGETON.

τ. Upper leaves floating.

1. *P. natans*, upper leaves petiolate, oblongo-ovate; lower ones lanceolate, gradually petiolate, p. 30.—Ponds and slow streams, frequent.

τ τ. Leaves all submersed.

2. *P. perfoliatum*, leaves cordate, embracing the stem, p. 30.—Streams, not frequent.

3. *P. densum*, stem forked; leaves ovate, acuminate, opposite, crowded, sessile; spike about 4-flowered, p. 30.—Streams, not frequent.

4. *P. lucens*, leaves petiolate, ovato-lanceolate; spike crowded with flowers, p. 31.—Bogs and slow streams.

5. *P. crispum*, leaves alternate, lanceolate, serrate, much waved, sessile, p. 31.—Streams.

6. *P. compressum*, stem compressed; leaves linear, obtuse, sessile; spikes about 4-flowered, p. 31.—Stagnant ponds, occasionally.

7. *P. gramineum*, stem rounded, subdichotomous; leaves linear lanceolate, alternate, sessile; broader than the stipules, p. 31.—Ponds.

## II. AROIDEÆ.

### τ. Aroidæ.

#### 1. ARUM.

1. *A. maculatum*, leaves all radical, hastate, sagittate, lobes deflexed; spadix club-shaped, obtuse, shorter than the spatha, p. 154.—Woods and sheltered hedges, common.

### ττ. Pistiaceæ.

#### 2. LEMNA.

1. *L. trisulca*, roots solitary; fronds ovate lanceolate, narrow at the base, sinuate at the tip, p. 4.—Clear ponds, occasionally.
2. *L. minor*, roots solitary; fronds ovate, compressed, p. 4.—Stagnant ponds, common.
3. *L. polyrhiza*, roots numerous, clustered; fronds obovato-orbicular, compressed, p. 4.—Stagnant ponds, frequent.
4. *L. gibba*, roots solitary; fronds obovate, flat above, hemispherical beneath, p. 5.—Stagnant ponds, not frequent.

### τττ. Typhinæ.

#### 3. SPARGANIUM.

1. *S. ramosum*, leaves triangular at the base, concave at the sides; peduncles branched; stigma linear, p. 146.—Wet places, frequent.
2. *S. simplex*, leaves triangular at the base, plane at the sides; peduncle simple; stigma linear, p. 146.—In similar situations as the last, rare.

#### 4. TYPHA.

1. *T. latifolia*, leaves linear, nearly plane; sterile and fertile spikes approximated, p. 146.—In ponds, occasionally.

## III. CYPERACEÆ.

### 1. ERIOPHORUM.

1. *E. vaginatum*, culm triangular; spike solitary, ovate, p. 9.—In bogs.



2. *E. angustifolium*, culm subtriangular; leaves linear, grooved; spikes many, pedunculate, shorter than the involucre, p. 9.—Bogs, common.

3. *E. polystachion*, culm round, leaves flat; spikes pedunculated, p. 9.—Bogs, rare.

## 2. SCHÆNUS.

1. *S. albus*, culm leafy, triangular, leaves linear, setaceous; fl. terminal, subcorymbose, as long as the involucre, p. 7.—Bogs.

2. *S. nigricans*, culm naked, rounded; fl. in a capitate, ovate cluster; involucre of 2 leaves, the exterior one longer than the flowers, p. 7.—Bogs.

## 3. SCIRPUS.

### a. Spike solitary.

#### τ. Culm simple.

1. *Sc. cespitosus*, culm round, striate, sheathed, 2 outer scales foliaceous at the apex, as long as the spike; stigmas 3, p. 7.—Boggy downs, common.

2. *Sc. palustris*, culm round, naked, with leafless sheaths at the base; spike oblongo-obovate, naked; stigmas 2, p. 7.—Bogs, frequent.

3. *Sc. acicularis*, culm grooved, sheathed at the base; spike ovate, acute, naked; scales acuminate; stigmas 3, p. 7.—Marshy places, occasionally.

#### ττ. Culm branched.

4. *Sc. fluitans*, culm rounded, weak, leafy; stigmas 2, p. 7.—Streams, frequent.

### b. Spikelets 2 or more.

#### τ. Culm rounded.

5. *Sc. lacustris*, upper sheaths leafy; involucre 2-leaved; panicle terminal, twice compound, p. 8.—Banks of streams, &c.

6. *Sc. holoschanus*, culm naked, involucre of 2 unequal  
2 1 2

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leaves, the crown 1-channelled; flowers in globose heads, sessile or pedunculate, p. 8.—Salt marshes, rare.

7. *Sc. setaceus*, culm setaceous, terminating in a single involucre; spikelets 2, p. 8.—In wet gravelly situations, frequent.

ττ. Culm triangular.

8. *Sc. maritimus*, culm leafy, spikelets sessile and pedunculated, in a terminal cluster; involucre many, foliaceous; scales notched, mucronate, p. 8.—Salt marshes.

9. *Sc. sylvaticus*, culm leafy, spikelets in a repeatedly compound cyme, involucre of many foliaceous leaflets, scales entire, p. 9.—Banks of streams, occasionally.

4. CAREX.

1. Stigmas 2.

τ. Culm bearing a simple solitary spike.

1. *C. pulicaris*, root fibrous; spike androgynous; sterile fl. above; fr. distant, oblong, sharp at both ends, reflexed, p. 146.—Bogs, frequent.

ττ. Culm bearing many sessile androgynous spikelets.

α. Sterile fl. above.

2. *C. divisa*, bractes foliaceous, erect, at the base of the spike; spikelets crowded, ovate; fr. ovate, adpressed, acutely angular, apex bifid, p. 147.—Marshy situations.

3. *C. muricata*, spikelets in a longish more or less interrupted spike; fr. divergent, ovate, plano-convex, acutely angled, margin rough upwards, apex bifid, p. 147.—Hedges, frequent.

4. *C. vulpina*, spikelets thrice compound in a crowded cylindrical spike; bractes setaceous; fr. divergent, ovate, acute, compressed, acutely angular, p. 147.—Banks of rivers, wet situations.

5. *C. paniculata*, spikelets thrice compound, collected in a paniced spike; fr. ovate, acuminate, gibbous on both sides; margin membranaceous towards the end, p. 147.—Bogs and wet places.

β. Sterile fl. beneath.

6. *C. stellulata*, spikelets 3-4, rounded, distant; fr. ovate,

acute, divaricated, rough at the margin, p. 148.—Bogs, frequent.

7. *C. curta*, spikelets 5-6, elliptical, rather distant; fr. erect, ovate, acute, p. 148.—Wet places.

8. *C. ovalis*, spikelets about 5, oval, approximate; fr. length of the scale, ovate, acuminate, convex on one side, concave on the other, with a membranous margin, p. 148.—Wet places, frequent.

9. *C. remota*, spikelets remote, solitary; bracteas leaf-like, longer than the culm; fr. longer than the scale, ovate, acuminate, subcompressed; margins obtuse, p. 148.—Woods and wet situations, frequent.

10. *C. axillaris*, spikelets, the lower ones 3-4 together; bracteas leaf-like, very long; fr. ovate, acute, compressed, length of the scale, p. 148.—Hedges and lanes.

τττ. Culm bearing sterile and fertile fl. on distinct spikes.

11. *C. arenaria*, bracteas membranaceous; spikelets crowded, the lower ones fertile, the upper sterile; fr. with a membranous margin, p. 149.—Sea-coast, frequent.

12. *C. intermedia*, spikelets crowded, upper and lower ones fertile, intermediate ones sterile; fr. margined, p. 149.—Bogs, &c.

13. *C. caspitosa*, sheaths 0; bracteas foliaceous, eared at the base; spikelets sessile, oblong or subcylindrical, obtuse, upper one sterile; fr. broadly ovate, p. 149.—Marshes and wet situations.

14. *C. acuta*, sheaths 0; bracteas long, foliaceous; spikelets, sterile ones 2-3, above, fertile ones 4-5, long, cylindrical, slender; fr. oval, with a short entire apex, p. 149. Wet situations, frequent.

## 2. Stigmas 3. (*Trasus*.)

τ. Sterile spikes, mostly single.

15. *C. pendula*, leaves broad; sheaths nearly the length of the peduncles; fertile spikes cylindrical, very long, drooping; fr. closely imbricate, ovate, beak short, bifid, p. 149.—Woods and meadows.

16. *C. sylvatica*, leaves narrow; sheaths half the length of

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the peduncles; fertile spikes filiform, distant, slightly drooping; fr. ovate, acuminate, loose, beak long, bifid, p. 150.—Woods, frequent.

17. *C. depauperata*, sheaths short; fertile spikes remote, very few-flowered; fr. subglobose, inflated, beak long, bifid at the end, p. 150.—Hedges and woods, frequent.

18. *C. pseudo-cyperus*, bracteas leafy; sheaths 0; fertile spikes cylindrical, pendulous, on long footstalks; scales setaceous; fr. ovate, lanceolate, striate, tip bifid, p. 150.

19. *C. pallescens*, bracteas subfoliaceous; sheaths 0; fertile spikes oblong, cylindrical, peduncled, subpendulous; fr. oval, inflated, obtuse, glabrous, p. 150.—Wet places, frequent.

20. *C. flava*, bracteas long, foliaceous; sheaths the length of the footstalks; fertile spikes roundish oval, on short peduncles; fr. obovate, with a long, bifid, recurved beak, p. 150.—Marshy places, common.

21. *C. extensa*, leaves convolute; bracteas foliaceous, very long, fertile; spikes oblong, subsessile; fr. obovate, striate, with scarcely any beak; point bifid, p. 150.—Marshy situations near the sea.

22. *C. distans*, bracteas foliaceous; sheaths length of the peduncles; fertile spikes oblong, erect, distant; scale mucronate; fr. ovate, subtriquetrous, depressed, beak short, bifid, p. 151.—Marshy places, frequent.

23. *C. præcox*, sheaths shorter than the peduncles; fertile spikes oblong, approximate; scales ovate; fr. obovate, subtriquetrous, acute, pubescent, p. 151.—Dry heaths, common.

24. *C. pilulifera*, bracteas small, subfoliaceous, fertile; spikes sessile, roundish, approximate; fr. globose, acute, pubescent, p. 151.—Marshy places, common.

25. *C. panicea*, bracteas foliaceous; sheaths shorter than the peduncles; fertile spikes subcylindrical; fr. distant, subglobose, ovate, obtuse, glabrous, apex entire, p. 151.—Marshy places, common.

26. *C. recurva*, bracteas subfoliaceous; sheaths 0; fertile spikes subcylindrical, drooping; fruit obovate, obtuse, rather downy, apex entire, p. 151.—Wet pastures.

ττ. Culm with many sterile spikes.

27. *C. puludosa*, bracteas long, foliaceous; sheaths 0; sterile spikes with obtuse scales, fertile spikes cylindrical, obtuse, with lanceolate scales; fr. oblong ovate, acute, striate, point bifid, p. 151.—Wet places, frequent.

28. *C. riparia*, bracteas long, foliaceous; sheaths 0; sterile spikes with acuminate scales; fertile spikes broadly cylindrical, acute; fruit ovate, point bifid, p. 152.—Marshes.

29. *C. vesicaria*, bracteas long, foliaceous; sheaths 0; fertile spikes cylindrical, slightly drooping; scales lanceolate; fr. ovate, inflated, beaked, apex deeply bifid, p. 152.—Banks of streams.

30. *C. ampullacea*, bracteas foliaceous; sheaths 0; fertile spikes cylindrical, sub-erect; scales lanceolate; fr. crowded, subglobose, inflated, beaked, apex slightly bifid, p. 152.—Marshes, frequent.

31. *C. lævigata*, bracteas foliaceous; sheaths shorter than the peduncles, fertile spikes drooping, cylindrical; scales all acuminate, or mucronate; fr. ovate, triangular, with a long acuminate beak, bifid at the end, p. 152.

32. *C. hirta*, hairy; bracteas long, foliaceous; sheaths the length of the peduncles; fertile spikes short, cylindrical, distant; scales cuspidate; fr. ovate, hairy, beak long, p. 152.—Wet pastures, frequent.

33. *C. filiformis*, glabrous; bracteas foliaceous, long, narrow; sheaths 0; fertile spikes on short peduncles, oblong, cylindrical; scales subcuspidate; fruit ovate, woolly, beak short, bifid at the end, p. 152.—Near old clay-pits.

#### 5. KOBRESIA.

1. *K. caricina*, spike contracted, sub-ovate; spikelets alternate, imbricate, upper one sterile, p. 153.—Heaths, plentiful.

### IV. GRAMINEÆ.

#### Div. 1. PANICEÆ.

##### 1. ANTHOXANTHUM.

1. *A. odoratum*, panicle spiked, oblong; fl. on short foot-stalks, and longer than the awns, p. 10.—Meadows and pastures, common.



DIV. 2. POACEÆ.

2. NARDUS.

1. *N. stricta*, spike erect, setaceous, the florets pointing one way, p. 9.—Moors, heaths, &c. common.

3. ALOPECURUS.

1. *A. pratensis*, culm erect, smooth; spike cylindrical, obtuse; glumes with acute, hairy valves, connate at the base, p. 10.—Fields, &c. common.
2. *A. agrestis*, culm erect, scabrous above; spike cylindrical, acuminate; glumes with acute nearly glabrous valves, united half up, p. 10.—Fields and hedges, frequent.
3. *A. geniculatus*, culm ascending, bent at the joints; spike cylindrical, obtuse; glumes with obtuse valves, p. 10.—Wet meadows and marshes, common.

4. PHALARIS.

1. *P. Canariensis*, panicle forming an obtuse spike; glumes with boat-shaped valves, entire at the point; perianth of 4 valves, the 2 inner ones larger and investing, p. 11.—A naturalized, rather than indigenous plant.
2. *P. arundinacea*, panicle erect, branches patent; florets clustered, secund; ext. perianth of two very minute hairy valves, p. 11.—Banks of streams and wet situations, common.

5. PHLEUM.

1. *P. pratense*, spike cylindrical; glumes with truncate valves, ciliated at the back, and longer than the awn, p. 11.—Meadows and pastures, common.
2. *P. arenarium*, spike oblong, ovate; glumes with acutely lanceolated valves, ciliated on the back, p. 11.—Loose drifting sands on the sea-coast.

6. MILIUM.

1. *M. effusum*, flowers loosely panicked and awnless, p. 11.—Lidford Fall.
2. *M. lendigerum*, panicle spiked; flowers awned, p. 12.—Dry situations, occasionally.

7. AGROSTIS.

1. *A. canina*, leaves linear; panicle with long, slender, erecto-patent branches; glume valves unequal, lanceolate, rough at the back; per. of 1 valve, with a dorsal awn from below the middle, p. 12.—Heathy downs and pastures, frequent.

2. *A. setacea*, leaves setaceous; panicle with short erect branches; glume valves unequal, lanceolate, rough at the back; per. outer valve with a longish awn from the base, inner one minute, ovate, p. 12.—On exposed downs, common.

3. *A. vulgaris*, panicle smoothish, with diverging branchlets; per. awnless, the outer valve 3-nerved, twice the length of the inner bifid one; stipule short, obtuse, p. 12.—Meadows, pastures, &c. common.

4. *A. alba*, panicle branches hispid; branchlets patent; per. with the outer valve 5-nerved; ligule oblong, p. 12.—Fields and hedges, common.

8. ARUNDO.

τ. glume 1-flowered. (*Calamagrostis*.)

1. *A. calamagrostis*, leaves linear acuminate; panicle erect, diffuse; per. shorter than the glume, and awned at the back, p. 13.—In moist shady situations.

2. *A. arenaria*, leaves involute, pungent; panicle spiked; per. awnless, length of the glume, 3 times the length of the tuft of hairs, p. 13.—On various sandy parts of the coast, frequent.

ττ. Glume many-flowered. (*Arundo*.)

3. *A. phragmites*, glume about 5-flowered, shorter than the florets, p. 13.—In watery situations, frequent.

9. ROTBOLLIA.

1. *R. incurvata*, spike round, filiform, mostly incurved; glume 2-valved, p. 24.—Sea-coast.

10. HORDEUM.

1. *H. murinum*, glume of the intermediate floret with linear lanceolate, ciliated valves, those of the lateral florets with setaceous scabrous ones, p. 24.—Frequent in the county.

2. *H. maritimum*, glumes with smoothish valves, interior

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one of the lateral florets semi-lanceolate, the rest setaceous, p. 24.—Exmouth Sands.

11. HOLCUS.

1. *H. avenaceus*, root knotted; perfect floret superior, scarcely awned, imperfect one antheriferous, with a long jointed awn, p. 13.—Fields and hedges, common.

2. *H. mollis*, root creeping; perfect floret inferior, awnless, imperfect one antheriferous, with a bent awn reaching beyond the glume, p. 14.—Meadows and pastures.

3. *H. lanatus*, root fibrous; perfect floret inferior, awnless, imperfect one with a curved awn, shorter than the glume, p. 14.—Meadows and pastures, common.

12. AIRA.

1. *A. cristata*, leaves hairy; panicle spiked; florets longer than the glume, p. 14.—Lime quarry, Ilington.

2. *A. capitata*, leaves plane; panicle diffuse; branches scabrous; florets rather longer than the glume, villous at the base; awn straight, inserted near the base of, and not exceeding the perianth, p. 14.—In moist situations, common.

3. *A. flexuosa*, leaves setaceous; panicle (when flowering) diffuse; florets villous at the base, as long as the glume; awn jointed, inserted near the base, much longer than the perianth, p. 14.—Woods, heaths, &c. common.

4. *A. caryophylla*, leaves setaceous; panicle divaricate; florets scarcely villous at the base, shorter than the glume; awn inserted below the middle, jointed, longer than the glume, p. 14.—Hills, pastures, &c. common.

5. *A. praeor*, leaves setaceous; panicle somewhat spiked; glumes all sub-equal; awn from near the base, longer than the glume, p. 15.—Sandy sterile situations, common.

13. MELICA.

1. *M. nutans*, panicle racemed; spikelets secund, drooping, 2-flowered, p. 15.—Very rare.

2. *M. uniflora*, panicle branched, inclined; spikelets erect, with only one perfect floret, p. 15.—Woods and hedges, frequent.

## 14. LOLIUM.

1. *L. perenne*, root perennial; spikelets longer than the glume, compressed; florets awnless, p. 23.—Pastures, common.

2. *L. temulentum*, root annual; spikelets shorter than the glume; florets about as long as the rigid awn, p. 23.—Cornfields, occasionally.

## 15. POA.

## τ. Spikelets linear.

1. *P. aquatica*, leaves broad; panicle erect, much branched; spikelets of about 6 obtuse florets, outer valves of which are 7-ribbed, p. 15.—Wet marshy situations.

2. *P. fluitans*, root creeping; panicle sub-erect, forming a very long lax spike; spikelets appressed, 7-12-flowered, the outer valves of which are 7-ribbed, with short intermediate ones at the base, p. 16.—Ditches and slow streams, frequent.

3. *P. maritima*, root creeping; leaves involute; panicle erect, sub-contracted; spikelets with about 5 florets, the outer valves of which are 5-nerved and obtuse, p. 16.—Sea-coast, not frequent.

4. *P. distans*, root fibrous; leaves plane; panicle divaricate, at length deflexed; spikelets of about 5 obtuse florets, the outer valves of which are obsoletely 5-nerved, p. 16.—Sandy spots near the sea.

5. *P. procumbens*, panicle compact, ovato-lanceolate, secund; spikelets of about 4 florets, the outer valves of which are 5-ribbed, p. 16.—In salt marshes, occasionally.

6. *P. rigida*, root fibrous; panicle lanceolate, distichous, secund; spikelets about 7-flowered, florets ribless, p. 16.—Walls, rocks, and dry pastures, frequent.

7. *P. compressa*, root creeping; culm compressed; panicle sub-secund, coarctate before and after flowering; spikelets of about 6 obtuse florets, connected by a web, p. 17.—Pastures, occasionally.

8. *P. bulbosa*, root fibrous; culm bulbous at the base; panicle subflexuose; spikelets 4-flowered; florets webbed at the base, p. 17.—Sandy sea beaches, occasionally.

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### 11. Spikelets ovate.

9. *P. trivialis*, root fibrous; culm and sheath roughish; ligule oblong; panicle spreading; spikelets of about 3 florets, the outer valves of which are 5-nerved, and webbed at the base, p. 17.—Hedges, meadows, and pastures, common.

10. *P. pratensis*, root creeping; culm and sheath smooth; ligule short; panicle spreading; spikelets of about 4 florets, their outer glumes 5-nerved, and webbed at the base, p. 17.—Meadows and pastures, common.

11. *P. annua*, root fibrous; culm ascending, compressed; panicle sub-secund, divaricate; spikelets of about 5 sub-remote flowers, with their outer valves 5-ribbed and awnless, p. 17.—Fields, hedges, and waste places.

### 16. BRIZA.

1. *B. media*, panicle diffuse; spikelets broadly ovate, of about 7 florets, which are longer than the glume, p. 18.—Dry pastures, not unfrequent.

### 17. DACTYLIS.

1. *D. glomerata*, leaves plane, scabrous; panicle crowded, secund, p. 18.—Fields, &c. common.

### 18. ELYMUS.

1. *E. arenarius*, leaves involute, rigid; spike upright, dense; spikelets pubescent; florets awnless, length of the glume, p. 23.—Sandy sea beaches, occasionally.

### 19. FESTUCA.

1. *F. ovina*, culm square above; leaves setaceous; panicle sub-secund, subcoarctate; spikelets of about 4-5 florets, with short awns, p. 18.—Dry hills and pastures, common.

2. *F. duriuscula*, radical leaves sub-setaceous, stem leaves nearly plane; panicle sub-secund, subcoarctate; spikelets of about 6 flowers, with short awns, p. 18.—Dry pastures and sands.

3. *F. bromoides*, culm leafless above; panicle erect, secund, racemose; flowers shorter than the awn, monandrous, p. 19.—Walls and sandy places, common.

4. *F. myurus*, culm leafy above, panicle secund, elongate,



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contracted, rather drooping; flowers shorter than the awn, monandrous, p. 19.—Walls and sterile situations, less frequent than the last.

5. *F. uniglumis*, panicle sub-simple, erect, secund; flowers shorter than the awn, the inner valve minute, p. 19.—Exmouth Sands.

6. *F. gigantea*, leaves lanceolate, ribbed; panicle branched, spreading, drooping towards one side; spikelets compressed, 3-6-flowered; flowers shorter than the awn, p. 19.—Woods and hedges, frequent.

7. *F. loliacea*, spike distichous, elongate; spikelets alternate, linear, sessile, many-flowered; florets cylindrical, awnless, p. 19.—In wet meadows and pastures, not unfrequent.

8. *F. pratensis*, root fibrous; panicle patent, branched; spikelets linear, many-flowered; florets cylindrical, awnless, p. 20.—Moist pastures, common.

9. *F. elatior*, root creeping; panicle large, patent, much branched; spikelets ovato-lanceolate, many-flowered; florets cylindrical, sub-aristate, p. 20.—Teignmouth, Shaldon, &c.

20. TRITICUM.

τ. Spike distichous.

1. *T. junceum*, root creeping; leaves involute, pungent; glume valves obtuse, ribbed, containing 4-5 awnless florets, p. 22.—On the sea-coast.

2. *T. repens*, root creeping; leaves plane; glume valves nerved with from 4-8 sub-awned flowers, p. 22.—Fields and waste places, common.

3. *T. caninum*, root fibrous, leaves plane; glume valves acute, about 5-nerved, with about 4 awned florets, p. 23.—Hedges and woods, occasionally.

ττ. Spike secund.

4. *T. loliaceum*, root fibrous, annual; glume valves obtuse, containing many awnless florets, p. 23.—On the sea-coast, occasionally.

21. BROMUS.

τ. Flowers in a spike.

1. *B. pinnatus*, spikelets linear, erect, sessile, forming

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a distichous, sub-erect spike; florets longer than the awn, p. 20.—Fields, &c. frequent.

2. *B. sylvaticus*, spikelets linear, erect, sessile, forming a distichous, slightly-drooping spike; florets shorter than the awn, p. 20.—Chudleigh Rocks and neighbouring woods.

τ τ. Fl. in a branched panicle.

3. *B. secalinus*, panicle spreading; peduncle sub-simple; spikelets ovate, compressed, of about 10 cylindrical, glabrous, rather remote florets, longer than the awn, p. 20.—Fields, occasionally.

4. *B. mollis*, leaves very soft and pubescent; panicle erect, branched, close; spikelets ovate, subcompressed, imbricated, pubescent; awn straight, about as long as the glume, p. 21.—Pastures, &c. common.

5. *B. racemosus*, leaves slightly hairy; panicle erect; spikelets ovate, subcompressed, on simple peduncles; florets imbricate, smooth; awn length of the glume, p. 21.—In a field at Ilington.

6. *B. arvensis*, leaves hairy, panicle spreading; spikelets lanceolate, compressed, on branched peduncles; florets imbricated, depressed, glabrous, length of the awn, p. 21.—Fields, occasionally.

7. *B. asper*, leaves uniform, the lower ones hairy; panicle branched, drooping; spikelets linear lanceolate, compressed; florets cylindrical, remote, hairy, longer than the straight awn, p. 21.—Hedges, frequent.

8. *B. sterilis*, leaves downy; panicle drooping, sub-simple; spikelets linear lanceolate, on long peduncles; florets remote, shorter than the awn, p. 21.—Woods and hedges, common.

9. *B. diandrus*, leaves subglabrous; panicle erect; spikelets linear lanceolate, on rather short, sub-simple peduncles; florets remote, about as long as the straight awn; stam. mostly 2, p. 21.—On the old city walls, Exeter.

22. AVENA.

1. *A. fatua*, root fibrous; panicle erect; spikelets drooping, of about 3 florets; florets smaller than the glume, hairy below, p. 22.—Tillage fields, occasionally.

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2. *A. pratensis*, leaves glabrous, serrulate, lower ones involute; raceme erect, simple; spikelets about 5-flowered, longer than the glume, p. 22.—In dry calcareous pastures.

3. *A. flavescens*, root creeping; panicle lax, patent, branched; spikelets 3-flowered, longer than the glume, (*Trisetum*,) p. 22.—Frequent in various parts of the county.

23. CYNOSURUS.

1. *C. cristatus*, spike linear, secund; florets shortly awned, p. 18.—Dry fields, &c. common.

V. JUNCAGINÆÆ.

1. TRIGLOCHIN.

1. *Tr. palustre*, fr. nearly linear, 3-celled, p. 65.—Salt marshes, occasionally.

2. *Tr. maritimum*, fr. ovate, 6-celled, p. 65.—Salt marshes and on the sea-coast, common.

VI. ALISMACEÆ.

1. ALISMA.

1. *A. plantago*, leaves ovate, acute; pericarps obtusely triangular, depressed, p. 86.—Marshy places, frequent.

2. *A. ranunculoides*, leaves linear; fr. globose, squarrose, acute, p. 66.—Preston near Kingsteignton.

VII. BUTOMEÆ.

1. BUTOMUS.

1. *B. umbellatus*, p. 71.—Marshy situations, rare.

VIII. JUNCÆÆ.

1. JUNCUS.

τ. Culm naked.

1. *J. acutus*, culm pungent; panicle lateral; bractea spinous; caps. mucronate, sub-rotund, twice the length of the perianth, p. 59.—Braunton Burroughs, &c

2. *J. maritimus*, culm pungent; panicle lateral, sub-proliferous; bractea spinous; caps. oblong, acute, the length of the perianth, p. 60.—Marshes.

3. *J. glaucus*, culm striate, rigid; panicle lateral, erect; caps. elliptical, acute, shorter than the perianth, p. 60.—Wet pastures, frequent.

4. *J. glomeratus*, panicle lateral, branched, dense, globose; perianth triandrous; caps. very obtuse, p. 60.—Wet places, common.

5. *J. effusus*, panicle lateral, compound, lax, spreading, divaricate; caps. turbinate, the apex subtruncate, p. 60.—Wet places, common.

τ τ. Leaves channelled.

6. *J. squarrosus*, culm naked; leaves setaceous; panicle terminal, elongated; caps. obovate, p. 60.—Heathy moors, &c. common.

7. *J. bulbosus*, culm simple, leafy, compressed; leaves linear, setaceous; panicle terminal, shorter than the bractæ; caps. roundish, longer than the obtuse perianth, p. 61.—In marshy situations, frequent.

8. *J. bufonius*, culm dichotomous; leaves angular; flowers solitary, sessile; perianth setaceous, twice the length of the capsule, p. 61.—In wet situations, common.

9. *J. uliginosus*, culm bulbous at the base; leaves setaceous, grooved; flowers 2-5 in clusters, sub-sessile; caps. obtuse, longer than the perianth, p. 61.—Wet situations, common.

τ τ τ. Leaves jointed.

10. *J. acutiflorus*, leaves nodoso-articulate; panicle terminal, compound; per. leaves acutely lanceolate; caps. acute, the length of the perianth, p. 62.—Marshy situations, common.

11. *J. lampocarpus*, panicle terminal; per. with oblong lanceolate leaves; caps. large, black, acute, shining, longer than the perianth, p. 62.—Bogs and marshy situations, common.

2. LUZULA.

1. *L. sylvatica*, panicle subcymose, doubly compound;

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flowers in clusters of 3-4, elongated peduncles; per. awned; caruncle obsolete, p. 62.—Woods, banks of streams, frequent.

2. *L. pilosa*, panicle cymose, divaricated, subcompound; flowers solitary; seed with an uncinatè caruncle, p. 62.—Woods and hedges, common.

3. *L. Fosteri*, panicle cymose; flowers solitary; caps. acute; caruncle erect, obtuse, p. 62.—Woods and hedges, frequent.

4. *L. campestris*, spikes sessile and pedunculated; per. with lanceolate, mucronate leaves; caps. obtuse, shorter than the perianth, p. 63.—Dry situations, common.

3. NARTHECIUM.

1. *N. ossifragum*, p. 59.—Bogs, common.

IX. ASPARAGÆ.

1. ASPARAGUS.

1. *A. officinalis*, unarmed; stem herbaceous, erect, rounded, much branched; leaves setaceous, fasciculate, p. 59.—Banks of the Exe, rare.

2. RUSCUS.

1. *R. aculeatus*, stem rigid, branched; leaves ovate, mucronate, pungent; fl. solitary on the upper surface of the leaf, p. 159.—Woods, rare. Woods at Stover.

X. TAMACEÆ.

1. TAMUS.

1. *T. communis*, leaves cordate, acute, undivided, p. 160.—Woods and hedges, common.

XI. ASPHODELIÆ.

1. ORNITHOGALUM.

1. *O. umbellatum*, fl. in a corymb; peduncles longer than the bracteas; filam. subulate, p. 58.—Orchards, rare.

2. SCILLA.

1. *S. autumnalis*, leaves linear; fl. in a corymb; peduncles without bracteas, p. 59.—Cliffs near the sea.



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### 3. HYACINTHUS.

1. *H. non-scriptus*, raceme drooping; bracteas in pairs; perianth segments revolute at the summits, p. 58.—Woods and hedges, common.

### 4. ALLIUM.

1. *A. vineale*, leaves rounded, fistulose; umbel bulbiferous; stamens tricuspidate, p. 57.—Meadows, occasionally.

2. *A. ursinum*, leaves large, plane, oblong-lanceolate, petiolate; scape triangular; umbel nearly plane, p. 58.—Damp shady situations, frequent.

## XII. AMARYLLIDEÆ.

### 1. NARCISSUS.

1. *N. biflorus*, leaves carinate, their margins inflexed; spathe 2-flowered, nectary very short, rotate, membranaceous, crenate, p. 57.—In orchards and pastures, occasionally.

2. *N. pseudo-narcissus*, spathe 1-flowered; nectary campanulate, its margins as long as the segments of the perianth, and curled, p. 57.—Woods, orchards, banks of streams, frequent.

### 2. GALANTHUS.

1. *G. nivalis*, p. 57.—Woods and orchards, occasionally.

## XIII. IRIDEÆ.

### 1. IRIS.

1. *I. pseudacorus*, stem roundish, compressed; perianth beardless, the inner segments erect, and smaller than the petaliform stigmas, p. 6. Kerr, *Iridearum* Gen. p. 47.—Banks of streams, &c. common.

2. *I. fatidissima*, stem 1-edged; perianth beardless, the inner segments spreading, larger than the stigma, p. 6.—Frequent in the more fertile parts of the county.

## XIV. HYDROCHARIDEÆ.

### 1. HYDROCHARIS.

1. *H. morsus-ranæ*, p. 161.—Ponds, rare.

## XV. ORCHIDEÆ.

## 1. ORCHIS.

τ. Tubers 2, undivided.

1. *O. morio*, perianth segments ascending, obtuse; spur conical, ascending, shorter than the germen; lip 3-lobed, lobes crenate, obtuse, middle one emarginate, p. 142.—Meadows, occasionally.

2. *O. mascula*, perianth segments acute, the outer one reflexed; spur linear, ascending, length of the germen; lip 3-lobed, crenulate, obtuse, middle one cleft, p. 143.—Woods and pastures, common.

3. *O. pyramidalis*, perianth segments lanceolate, the 2 outer ones spreading; spur filiform, longer than the germen; lip 3-cleft, the lobes equal, entire, with 2 scales near the base, p. 143.—In dry situations, rare.

4. *O. ustulata*, perianth segments erect, pointed; spur recurved, one-third the length of the germen; lip 3-lobed, lobes linear, rough, with dots, middle one cleft, p. 143.—Pastures, occasionally.

τ τ. Tubers 2, palmate.

5. *O. latifolia*, bracteas longer than the flowers; perianth segments connivent; spur cylindrical, shorter than the germen; lip 3-lobed, the sides reflexed, p. 143.—Marshes and moist meadows.

6. *O. maculata*, bracteas as long as the germen; perianth segments, the 3 inner ones connivent, the lateral ones patent; spur cylindrical, shorter than the germen; lip plane, 3-lobed, crenate, p. 143.—Hedges, fields, &c. common.

## 2. HABENARIA.

1. *H. bifolia*, spur filiform, twice as long as the germen; lip linear, entire, p. 144.—Woods, &c. frequent.

## 3. OPHRYS.

1. *O. apifera*, lip 5-lobed, convex, villous, terminal; segment subulate, recurved, p. 144.—Limestone rocks, &c. occasionally.

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4. NEOTTIA.

1. *N. spiralis*, flowers spirally arranged, pointing one way; lip undivided, crenulate, p. 144.—Meadows and pastures, occasionally.

5. LISTERA.

1. *L. ovata*, stem with one pair of ovate, opposite leaves, p. 144.—Chudleigh, Torquay, &c. occasionally.

2. *L. nidus avis*, stem with sheathing scales, leafless, p. 144.—Shady woods, rare.

6. EPIPACTIS.

1. *E. latifolia*, leaves ovate, embracing; bractæas, lower ones longer than the flowers; flowers drooping; lip entire, acuminate, shorter than the other segments of the perianth, p. 145.—In woods, occasionally.

2. *E. palustris*, leaves lanceolate, embracing; bractæas shorter than the flower; flowers slightly drooping; lip obtuse, crenate, length of the other segments of the perianth, p. 145.—Boggy situations, rare.

### III. DICOTYLEDONS.

#### I. CORYLACEÆ.

##### 1. CORYLUS.

1. *C. avellana*, leaves obovate, cordate, acuminate; stipules oblong, obtuse; involucre of the fruit campanulate, torn at the margin, p. 156.—Woods and hedges, common.

##### 2. QUERCUS.

1. *Q. robur*, leaves deciduous, sub-sessile, broader above, sinuated and lobed, sinuses rather acute, lobes obtuse; fruit on elongated peduncles, p. 155.—Woods.

2. *Q. sessiliflora*, leaves deciduous, petiolate, oblong, sinuated and lobed, sinuses rather acute, lobes obtuse; fruit sessile, p. 115.—Woods.

##### 3. CASTANEA.

1. *C. vulgaris*, leaves oblong-lanceolate, mucronately serrate, glabrous on both sides, p. 155.—Woods.

##### 4. FAGUS.

1. *F. sylvatica*, leaves ovate, glabrous, slightly toothed, margins ciliated, p. 155.—Woods.

##### 5. CARPINUS.

1. *C. betulus*, fr. bracteas oblong, serrate, 2 lateral lobes smaller, p. 155.—Woods and plantations.

#### II. SALICINÆ.

##### 1. SALIX.

1. *S. purpurea*, stem decumbent, monandrous; leaves obovate-lanceolate, serrate, glabrous; stigma sub-sessile; caps. ovate, very pubescent, sessile, p. 156.—Sides of streams, occasionally.

2. *S. rubra*, leaves linear-lanceolate, serrate, glabrous green on both sides; stam. united at the base; style elongated; caps. ovate, sessile, pubescent, p. 156.—In willow-grounds, frequent.

3. *S. triandra*, leaves lanceolate, serrate, glabrous; stigma sessile, bifid; caps. ovate, pedicelled, glabrous, p. 156.—Willow-beds.

4. *S. Russelliana*, leaves lanceolate, serrate, glabrous; style elongated; stigma bifid; caps. pedicelled, subulate, glabrous, p. 156.—Wet places, occasionally.

5. *S. fragilis*, leaves ovate-lanceolate, acute, serrate, glabrous; scales pubescent and ciliate; style elongated; stigma bifid; caps. ovate, shortly pedicelled, p. 157.—Marshes, rare.

6. *S. repens*, stem procumbent; leaves elliptical-lanceolate, acute, entire, glaucous and silky beneath; styles short; stigma bifid; caps. pedicelled, lanceolate, silky, p. 157.—Wet moors and marshes.

7. *S. cinerea*, leaves obovate-lanceolate, their margins slightly recurved, beneath glaucous, pubescent, reticulated with veins; stipules semi-cordate; style short; stigma mostly entire; caps. pedicelled, lanceolate, silky, p. 157.—Wet woods and hedges, common.

8. *S. aurita*, leaves obovate, sub-serrate, villous on both sides, reticulately veined, with a recurved point; stipules roundish; stigma sub-sessile, mostly entire; caps. pedicelled, lanceolate, subulate, silky, p. 157.—Not frequent.

9. *S. caprea*, leaves ovate, acute, serrate, undulated at the margin; stipules crenate; stigma sessile, entire; caps. pedicelled, lanceolate, silky, p. 158.—Woods and hedges in dry situations, common.

10. *S. acuminata*, leaves lanceolate-oblong, waved, slightly toothed, downy beneath; stipules reniform; caps. ovate, tapering, pubescent, p. 158.—Woods and hedges, frequent.

11. *S. mollissima*, leaves lanceolate, obscurely crenate, white and silky beneath; stipules small, crenate; style elongated; stigma linear, mostly entire; caps. lanceolate, silky, shortly pedicelled, p. 158.—Not frequent.

12. *S. viminalis*, leaves linear-lanceolate, obscurely crenate, white and silky beneath; stipules very small, lanceolate;



style elongated; stigma linear, mostly entire; caps. sub-sessile, lanceolate, silky, p. 158.—Wet situations, frequent.

13. *S. stipularis*, leaves lanceolate, indistinctly crenate, white and downy beneath; stipules semi-cordate, acute; style rather elongated; stigma awl-shaped, recurved, entire; caps. ovate, downy, shortly pedicelled, p. 158.—Osier-beds.

14. *S. alba*, leaves elliptical-lanceolate, acute, serrate, serratures glandular, mostly silky on both sides; stigma sub-sessile, short, recurved, bifid; caps. sub-sessile, ovate, acuminate, glabrous, p. 158.—Woods, &c. frequent.

## 2. POPULUS.

1. *P. alba*, leaves cordate, roundish, lobed, toothed, glabrous above, very white and downy beneath; catkins ovate, p. 160.—Woods and plantations.

2. *P. canescens*, leaves roundish, angularly repand, toothed, villous beneath; catkins cylindrical, lax, p. 160.—E. B.\* t. 1619.—Hedges, occasionally.

3. *P. tremula*, leaves sub-orbicular, broadly toothed, on both sides glabrous, p. 160.—Woods and plantations.

4. *P. nigra*, leaves deltoid, acute, serrate, on both sides glabrous; fertile catkins lax, cylindrical, p. 160.—Woods and plantations.

## 3. ALNUS.

1. *A. glutinosa*, leaves roundish, cuneiform, obtuse, lobed and serrate, axils of the ribs villose beneath, p. 153.—Wet swampy places, common.

## 4. BETULA.

1. *B. alba*, leaves ovate, deltoid, acute, doubly serrate, glabrous, p. 155.—Woods and hedges.

## 5. MYRICA.

1. *M. gale*, stem shrubby; leaves lanceolate, broader above, serrate, p. 159.—In swampy situations, occasionally.

# III. ULMACEÆ.

## 1. ULMUS.

1. *U. campestris*, leaves doubly serrate, rough, unequal at

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the base; flowers sub-sessile, 4-cleft; stamens 4; fruit oblong, naked, p. 46.—Hedges in good soils, common.

2. *U. montana*, leaves doubly serrate, rough, unequal at the base; flowers on short stalks, 5-6-cleft; stamens 5-6; fruit roundish, naked, p. 46.—Woods and hedges, frequent.

## IV. URTICEÆ.

### 1. URTICA.

1. *U. urens*, leaves opposite, elliptical, 3-5 ribbed; flowers in nearly simple clusters, p. 153.—Waste places, frequent.

2. *U. dioica*, leaves ovate, acuminate, cordate; fl. in much branched, binate, mostly diœcious clusters, p. 153.—Waste places, common.

### 2. PARIETARIA.

1. *P. officinalis*, leaves ovate-lanceolate; involucre of many ovate leaflets, p. 29.—On old walls, buildings, bridges, &c. common.

### 3. HUMULUS.

1. *H. lupulus*, p. 159.—Hedges, frequent.

## V. EUPHORBIACEÆ.

### 1. MERCURIÀLIS.

1. *M. perennis*, root creeping, perennial; stem quite simple; leaves rough, p. 160.—Woods and hedges, common.

### 2. EUPHORBIA.

1. *E. peplis*, stems trailing, dichotomous; leaves semicordate, entire; flowers solitary, axillary, p. 80.—Along the sea-coast, rare.

2. *E. peplus*, leaves obovate, entire, umbel mostly of 3 primary rays; bractæas heart-ovate; nectaries crescent-shaped, with 2 horns, p. 80.—Fields, gardens, and waste places, frequent.

3. *E. exigua*, leaves linear-lanceolate, entire; umbel mostly of 3 primary rays; bractæas lanceolate, entire, p. 80.—Fields and waste places, common.

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4. *E. Portlandica*, leaves linear-obovate, acute, glabrous, patent; umbel mostly of 5 primary rays; bracteas concave, subcordate, p. 80.—Along the sea-coast.

5. *E. paralia*, leaves concave, and imbricate upwards; umbel mostly of 5 primary bifid rays; bracteas heart-kidney-shaped, p. 81.—Along the sea-coast, frequent.

6. *E. helioscopia*, leaves wedge-shaped, serrate; umbel mostly of 5 primary forked rays; bracteas obovate, serrate, p. 81.—Fields, gardens, &c. common.

7. *E. amygdaloides*, leaves lanceolate, obtuse, hairy; umbel of many primary forked rays; bracteas perfoliate; caps. glabrous, p. 81.—Woods and hedges, common.

## VI. RESEDACEÆ.

### 1. RESEDA.

1. *R. luteola*, leaves lanceolate, entire, plane; per. 4-cleft, p. 80.—Waste places, common.

## VII. THYMELEÆ.

### 1. DAPHNE.

1. *D. laureola*, leaves lanceolate, glabrous, evergreen; racemes clustered, axillary of about 5 flowers, p. 68.—Woods, occasionally.

## VIII. POLYGONEÆ.

### 1. POLYGONUM.

τ. Leaves ovate, flowers in a solitary terminal spike. (*Bistorta*.)

1. *P. bistorta*, stem simple, leaves ovate, the radical ones on long, winged petioles, p. 69.—In meadows, not frequent.

ττ. Leaves lanceolate, flowers in terminal, or axillary spikes. (*Persicaria*.)

2. *P. amphibium*, leaves petiolate, rough at the margin; spike terminal, ovate; flowers pentandrous; styles forked, p. 69.—Ponds, ditches, &c.

3. *P. persicaria*, leaves sub-sessile; stipules fringed; spikes oblong, erect, with smooth peduncles; flowers hexandrous; styles forked, p. 70.—In moist waste places, ditches, &c. common.

4. *P. lapathifolium*, leaves petiolate, broadly lanceolate; stipules not fringed; spikes oblong, erect, with rough peduncles; flowers hexandrous, with 2 distinct styles, p. 70.—Roadsides, dunghills, &c. occasionally.

5. *P. Hydropiper*, stem erect; leaves lanceolate, waved, spotless; spikes lax, drooping; flowers hexandrous; styles forked, p. 70.—Wet places, common.

τ τ τ. Flowers axillary. (*Polygonum*.)

6. *P. aviculare*, stem procumbent, herbaceous; leaves ovate-lanceolate, rough at the margin; stipules with remote nerves, p. 70.—Fields, waste places, &c. common.

τ τ τ τ. Leaves cordate. (*Fagopyrum*.)

7. *P. fagopyrum*, stem sub-erect, unarmed; leaves cordate, sagittate; angles of the seeds even, p. 70.—In tillage fields, occasionally; a naturalized plant.

8. *P. convolvulus*, stem twining, angular; leaves cordate, sagittate; segments of the perianth bluntly keeled, p. 70.—Fields and hedges, common.

## 2. CORRIGIOLA.

1. *C. littoralis*, p. 55.—Sea-coast, rare.

## 3. RUMEX.

τ. Flowers all perfect. (*Docks*.)

1. *R. aquaticus*, leaves lanceolate, acute, the lower ones cordate at the base; perianth valves ovate, entire, obtusely granuliferous, p. 64.—Marshes, occasionally.

2. *R. crispus*, leaves lanceolate, waved, acute; per. valves large, entire, cordate, granuliferous, p. 64.—In waste places, common.

3. *R. acutus*, leaves heart-oblong, acuminate; whorls leafy; per. valves oblong, subdentate, granuliferous, p. 64.—Fields, waste places, &c. common.

4. *R. pulcher*, stem diffuse; radical leaves panduriform;

per. valves oblong, toothed one chiefly granuliferous, p. 64.—Not frequent.

5. *R. obtusifolius*, stem roughish; radical leaves cordate, oblong, obtuse; per. valves ovate, toothed, one chiefly granuliferous, p. 64.—Waste places, hedges, &c. common.

6. *R. maritimus*, leaves linear-lanceolate; whorls crowded; per. valves triangular, tubercled, fringed with setaceous teeth, p. 65.—Marshes near the sea, frequent.

7. *R. palustris*, leaves linear-lanceolate; whorls distant; per. valves lanceolate, tubercled, toothed at the base, p. 65.—In wet marshy situations, frequent.

ττ. Flowers diœcious.

8. *R. acetosa*, leaves oblong, sagittate, their segments bent towards the petiole, p. 65.—Pastures, &c. common.

9. *R. acetosella*, leaves lanceolate, hastate, their lobes acute, spreading, p. 65.—Dry pastures, &c. common.

## IX. CHENOPODEÆ.

### 1. CHENOPODIUM.

τ. Leaves entire.

1. *Ch. fruticosum*, leaves subulate, fleshy; bractæ 3; flowers axillary, sessile, solitary, p. 44.—On the sea-coast.

2. *Ch. maritimum*, leaves subulate, semi-cylindrical, fleshy; bractæ 2; flowers clustered, axillary, sessile, p. 44.—In salt marshes, and on the sea-coast.

3. *Ch. olidum*, stems spreading; leaves ovate-rhomboid; flowers in dense clustered spikes, p. 44.—Not frequent.

4. *Ch. polyspermum*, leaves ovate; racemes subcymose, divaricate, leafless, p. 44.—Waste places, occasionally.

ττ. Leaves angular, toothed or lobed.

5. *Ch. Bonus-Henricus*, leaves triangular, sagittate, entire; spikes compound, terminal and axillary, leafless, p. 44.—Waste places, occasionally.

6. *Ch. rubrum*, leaves rhomboid-triangular, deeply toothed, and sinuated; spikes erect, compound, leafy; seeds minute, p. 45.—Dunghills, waste places, &c. common.



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7. *Ch. murale*, leaves ovate, acute, toothed, shining; racemes much branched, subcymose, leafless, p. 45.—Rubbish and waste spots near towns, occasionally.

8. *Ch. album*, lower leaves rhomboid, ovate, jagged, entire at the base; upper ones oblong, entire; racemes branched, leafy, p. 45.—Waste places, common.

2. ATRIPLEX.

1. *A. portulacoides*, stem shrubby; leaves opposite, obovate-lanceolate, entire, silvery white, p. 161.—On the sea-shore.

2. *A. laciniata*, stem herbaceous, diffuse; leaves deltoid, sinuated, toothed, silvery beneath, p. 161.—Along the sea-shore, frequent.

3. *A. patula*, stem herbaceous, spreading; leaves triangular, hastate, irregularly toothed, glabrous above, upper ones entire, p. 161.—Waste places, and along the sea-side, common.

4. *A. angustifolia*. This is only a variety of the last, with narrower leaves, p. 161.

3. BETA.

1. *B. maritima*, stems procumbent at the base; flowers solitary, or in pairs; perianth segments entire, p. 45.—Occasionally on the sea-coast.

4. SALSOLA.

1. *S. kali*, stem herbaceous, procumbent; leaves subulate, spinous, scabrous; perianth axillary, its segments with a scarious margin, p. 46.—Sea-coast, frequent.

5. SALICORNIA.

1. *S. herbacea*, stem erect, its articulations reversely conical; spikes cylindrical, attenuated, p. 1.—Salt marshes, common.

X. HALORAGÆ.

1 MYRIOPHYLLUM.

1. *M. spicatum*, sterile flowers in a leafless, interruptedly whorled spike; fertile fl. axillary, p. 154.—Frequent in streams.

2. CALLITRICHE.

1. *C. aquatica*, p. 145.—Ditches and slow streams.

XI. PLANTAGINEÆ.

1. PLANTAGO.

1. *P. major*, leaves ovate, on longish foot-stalks; scape rounded; spikes long, cylindrical; cells of the capsules many-seeded, p. 28.—Meadows, pastures, and way-sides, common.

2. *P. lanceolata*, leaves lanceolate, scape angular; spike ovate, p. 28. E. B. t. 507.—Meadows and pastures, common.

3. *P. maritima*, leaves linear, grooved, fleshy; scape rounded; spike cylindrical, p. 28.—Salt marshes, and on the sea-coast, common.

4. *P. coronopus*, leaves linear, pinnatifid; scape rounded; caps. of four 1-seeded cells, p. 28.—On the sea-coast, and in salt marshes, common; also in sterile elevated situations, inland, frequent.

2. LITTORELLA.

1. *L. lacustris*, p. 153.—Heaths, rare.

XII. PLUMBAGINEÆ.

1. STATICE.

1. *S. armeria*, leaves linear; scape simple, bearing a round head of flowers, p. 55.—Salt marshes, and along the sea-coast, common.

2. *S. limonium*, leaves ovate-lanceolate, tipped with a small point; scape round, paniculate, p. 55.—Salt marshes, common.

XIII. PRIMULACEÆ.

1. ANAGALLIS.

1. *A. arvensis*, stem procumbent; leaves ovate, sessile, dotted beneath, p. 36.—Fields, common.

Var. *γ. cærulea*. Fl. Lond. vol. v. t. 169. (*Anagallis cærulea*.)—Rare.

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2. *A. tenella*, stem creeping ; leaves roundish, acute, petiolated ; stigma acute, p. 37.—In bogs, common.

2. LYSIMACHIA.

1. *L. vulgaris*, leaves ovate-lanceolate, acute ; flowers in a terminal panicle, p. 36.—Near streams, occasionally.

2. *L. nemorum*, stem creeping ; leaves ovate, acute ; peduncles solitary ; calycine segments linear, subulate ; stem smooth, p. 36.—Shady hedges and woods, common.

3. *L. nummularia*, stem procumbent ; leaves subcordate, obtuse ; peduncles solitary ; calycine segments ovate, acute ; stem glandular, p. 36.—Woods and near streams, occasionally.

3. PRIMULA.

1. *P. vulgaris*, leaves dentate, rugose ; scape 1-flowered ; limb of the cor. plane, p. 35.—Hedges and woods, common.

2. *P. veris*, leaves dentate, rugose, contracted below the middle ; scape umbellate ; flowers drooping ; limb of the cor. concave, p. 35.—Of rare occurrence in Devon.

4. CENTUNCULUS.

1. *C. minimus*, p. 29.—Not frequent.

5. SAMOLUS.

1. *S. valerandi*, leaves obtuse ; racemes many-flowered ; pedicels with a minute bractea, p. 41.—Marshes, &c. frequent.

6. GLAUX.

1. *G. maritima*, p. 43.—Salt marshes, common.

XIV. LENTIBULARIÆ.

1. UTRICULARIA.

1. *U. vulgaris*, leaves capillary, pinnato-multifid ; spur conical ; upper lip as long as the projecting palate, p. 4.—Pools and ditches, occasionally.

2. *U. intermedia*, leaves tripartite, with linear, dichotomous segments ; spur conical ; upper lip twice the length of the palate, p. 4.—In the same situations as the last, but much less frequent.

## 2. PINGUICULA.

1. *P. Lusitanica*, leaves and scape hairy; spur obtuse, curved, shorter than the corolla, p. 4.—Bogs, frequent.

## XV. VERBENACEÆ.

## 1. VERBENA.

1. *V. officinalis*, stem erect, solitary; leaves inciso-pinnatifid; spikes slender, paniced, p. 106.—Waste places, frequent.

## XVI. MELAMPYRACEÆ.

## 1. MELAMPYRUM.

1. *M. pratense*, leaves in distant pairs; upper bractæ pinnate, dentate; flowers axillary, secund; cor. 4 times the length of the cal., closed, the lower lip protruded, p. 103.—Woods and shady places, common.

2. *M. sylvaticum*, leaves in distant pairs; bractæ entire; cor. half as long again as the cal., open, lower lip the same length as the upper, p. 104.—Rare.

## XVII. LABIATÆ.

## 1. LYCOPUS.

1. *L. Europæus*, leaves ovato-lanceolate, deeply sinuated, serrated, p. 100.—Sides of streams, frequent.

## 2. SALVIA.

1. *S. verbenaca*, leaves sinuate, serrate; cor. narrower than the cal. p. 102.—Banks in dry pastures, not frequent.

## 3. AJUGA.

1. *A. reptans*, stolones creeping; stem solitary; leaves oblong-ovate, p. 96.—Woods and pastures, common.

## 4. TEUCRIUM.

1. *T. scorodonia*, stem erect; leaves petiolate, cordate, cre-

nate, pubescent; flowers in lateral and terminal racemes, secund, p. 96.—Woods and hedges, common.

#### 5. NEPETA.

1. *N. cataria*, leaves petiolate, cordate, toothed, serrate; flowers in spiked subpedicelled whorls, p. 96.—Fields, occasionally.

#### 6. MENTHA.

1. *M. rotundifolia*, leaves roundish, blunt, crenate, wrinkled, tomentose beneath; flowers in terminal interrupted spikes, p. 96.—Woods and waste places, occasionally.

2. *M. viridis*, leaves sessile, cordate, lanceolate, acute, serrate, naked; spikes attenuated, interrupted, p. 97.—Not frequent.

3. *M. piperita*, leaves petiolate, ovate, serrate, nearly naked; calyx quite naked at the base; stamens enclosed, p. 97.—Wet places, not unfrequent.

4. *M. hirsuta*, leaves petiolate, ovate, serrate, pubescent; flowers capitate or whorled; pedicels and calyx clothed with hairs, p. 97.—Wet places, frequent.

5. *M. rubra*, stem erect, flexuose; leaves ovate, petiolate, serrate, subglabrous; flowers whorled; pedicels and lower part of the calyx quite glabrous; teeth of calyx hairy, p. 97.—Occasionally, beside streams.

6. *M. gracilis*, stem erect, much branched; leaves lanceolate, acute, serrate, sub-sessile; flowers whorled; peduncles and base of the calyx quite glabrous; teeth hairy, p. 98.—In wet places, not unfrequent.

7. *M. arvensis*, stem branched; leaves ovate, hairy, serrate; calyx campanulate, clothed with spreading hairs, p. 98.—Corn-fields, waste places, &c. common.

#### 7. GLECHOMA.

1. *G. hederacea*, leaves reniform, crenate, p. 98.—Hedges and fields, common.

#### 8. LAMIUM.

1. *L. album*, leaves cordate, acuminate, deeply serrate, petiolate; whorls of about 20 flowers, p. 98.—Hedges and waste places, common.



2. *L. purpureum*, leaves cordate, obtuse, toothed, petioled, upper ones crowded; whorls 8-10 flowered; cor. tube bearded within, p. 98.—Waste places and gardens, common.

3. *L. amplexicaule*, floral leaves sessile, amplexicaul, obtuse, p. 98.—Not frequent.

#### 9. GALEOPSIS.

1. *G. ladanum*, stem not swollen below the joints; leaves lanceolate, hairy, sub-serrate; cor. the upper lip slightly crenate, p. 99.—In dry situations, common.

2. *G. tetrahit*, stem incrassated below the joints; leaves ovate, serrate, hairy; cor. twice the length of the cal.; upper lip nearly straight, p. 99.—Fields, common.

#### 10. GALEOBDOLON.

1. *G. luteum*, p. 99.—Shady and damp situations, frequent.

#### 11. BETONICA.

1. *B. officinalis*, spike interrupted; cor. middle lobe of the lower lip notched, p. 99.—Woods and hedges, common.

#### 12. STACHYS.

1. *S. sylvatica*, stem solid; leaves cordate, acute, serrate, petiolate; whorls 6-flowered, p. 99.—Woods and hedges, common.

2. *S. palustris*, leaves linear-lanceolate, serrate, sessile; whorls about 6-flowered, p. 99.—In wet places, common.

3. *S. arvensis*, stem weak; leaves cordate, obtuse, crenate, slightly hairy; whorls 6-flowered, length of the calyx, p. 99.—Tillage fields, &c. common.

#### 13. BALLOTA.

1. *B. nigra*, leaves ovate, serrate; cal. ciliated above, sub-truncated, the teeth patent, p. 100.—Road-sides and waste places, frequent.

#### 14. MARRUBIUM.

1. *M. vulgare*, stem erect; leaves roundish, ovate, toothed, wrinkled; cal. with 10 setaceous hooked teeth, p. 100.—Along the coast, frequent.

## 15. LEONURUS.

1. *L. cardiaca*, leaves petiolate; lower ones cuneiform, ovate, 3-lobed, toothed; upper ones lanceolate, entire, p. 100.—Hedges, occasionally.

## 16. CLINOPODIUM.

1. *C. vulgare*, leaves ovate, obscurely serrate, petiolate; bractæ setaceous; pedicels branched, p. 100.—Woods and hedges, frequent.

## 17. ORIGANUM.

1. *O. vulgare*, leaves ovate, entire; spike roundish, panicled, conglomerate; bractæ ovate, coloured, length of the calyx, p. 101.—Hedges, frequent.

## 18. THYMUS.

1. *T. serpyllum*, stems decumbent, branched; leaves plane, ovate, entire, petiolate, ciliate at the base; flowers capitate, p. 101.—Dry exposed heaths, pastures, &c. frequent.

2. *T. acinos*, stem ascending, branched; leaves oblong, acute, serrate; whorls 6-flowered; flowers on simple stalks, p. 101.—In dry pastures, frequent.

3. *T. calamintha*, leaves ovate, serrate; whorls axillary, peduncled, forked, many-flowered, p. 101.—Road-sides, occasionally.

## 19. MELITTIS.

1. *M. melissophyllum*, p. 101.—In the southern parts of the county, frequent.

## 20. SCUTELLARIA.

1. *S. galericulata*, leaves cordate, lanceolate, distinctly crenate; flowers axillary, p. 102.—Watery places and banks of streams, frequent.

2. *S. minor*, leaves cordate, ovate, entire; flowers axillary, p. 102.—In bogs, frequent.

## 21. PRUNELLA.

1. *P. vulgaris*, leaves oblong, ovate, subdentate at the base, petiolate, p. 102.—Fields and hedges, common.

## XVIII. SCROPHULARINÆ.

### 1. EUPHRASIA.

1. *E. officinalis*, leaves ovate, toothed, veined, furrowed, p. 103.—In dry pastures, common.

### 2. BARTSIA.

1. *B. viscosa*, leaves lanceolate, serrate, upper ones alternate; flowers lateral, distant; anthers hairy, p. 103.—In marshy places, occasionally.

2. *B. odontites*, stem branched; leaves lanceolate, serrate; flowers racemed, secund; anthers subglabrous, p. 103.—Fields, common.

### 3. RHINANTHUS.

1. *Rh. crista-galli*, leaves lanceolate, serrate; cal. glabrous, p. 103.—Meadows and pastures, frequent.

### 4. PEDICULARIS.

1. *P. palustris*, stem single, branched; cal. ovate, hairy, 2-lobed, crenate, p. 104.—In bogs and wet places, common.

2. *P. sylvatica*, stems many from the same root, spreading; cal. oblong, angular, glabrous, unequally 5-cut, p. 104.—Heaths and wet pastures, common.

### 5. ANTIRRHINUM.

- τ. Stem procumbent; leaves broad; cor. spurred.

1. *A. cymbalaria*, leaves cordate, 5-lobed, alternate, glabrous, p. 104.—Not frequent.

2. *A. spurium*, leaves ovate, alternate, hairy, peduncles villose, p. 104.—Occasionally.

3. *A. elatine*, lower leaves ovate, upper ones hastate, peduncles smooth, p. 104.—Tillage fields, &c. frequent.

- ττ. Stem erect; leaves narrow; cor. spurred.

4. *A. repens*, stem panicled; leaves linear, whorled or scattered; cal. glabrous, length of the spur; cor. striate, p. 105.—Rare.

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5. *A. linaria*, leaves linear-lanceolate, glabrous, crowded; spike terminal; flowers imbricate; cal. glabrous, shorter than the spur, p. 105.—Hedges, &c. common.

6. *A. minus*, leaves linear-lanceolate, obtuse, mostly alternate, pubescent; cal. longer than the spur, p. 105.—Tillage fields, frequent.

rrr. Cor. gibbous at the base.

7. *A. orontium*, leaves lanceolate; flowers rather spiked; cal. segments linear, longer than the cor. p. 105.—Fields and gardens, frequent.

8. *A. majus*, leaves lanceolate; flowers spiked; cal. segments ovate, obtuse, p. 105.—Old walls, frequent.

### 6. SCROPHULARIA.

1. *S. nodosa*, stem with 4 acute angles; leaves cordate, acute, serrate, p. 105.—Woods and hedges, common.

2. *S. aquatica*, stem winged at the angles; leaves cordate, serrate, acute, decurrent, p. 106.—Wet places, frequent.

### 7. DIGITALIS.

1. *D. purpurea*, leaves ovate-lanceolate, pubescent; cal. segments ovate, acute; cor. obtuse; upper lip undivided, p. 106.—Dry pastures, hedges, rubbish, exposed situations, common.

### 8. SIBTHORPIA.

1. *S. Europæa*, leaves reniform or peltate, crenate, p. 106.—Boggy places in the south of the county, rare.

### 9. VERONICA.

a. Root perennial; leaves opposite; flowers in spikes.

r. Spikes terminal.

1. *V. serpyllifolia*, stem procumbent; leaves ovate, crenate; caps. obcordate, length of the style, p. 2.—Pastures and road sides, common.

rr. Spikes axillary.

2. *V. scutellata*, leaves linear, slightly denticulate; spikes alternate; pedicels divaricated, p. 2.—Bogs and beside streams, occasionally.

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3. *V. anagallis*, stem erect; leaves lanceolate, serrate; spikes opposite, p. 2.—Watery situations, but not frequent.

4. *V. beccabunga*, stems procumbent, rooting; leaves ovate, obtuse, sub-serrate, glabrous; spikes opposite, p. 3.—Ditches and slow water-courses, common.

5. *V. officinalis*, stem procumbent, hairy; leaves obovate, serrate, covered with short thick hairs, p. 3.—Dry and exposed situations, common.

6. *V. montana*, stem hairy on all sides; leaves heart-ovate, petiolate, serrate; spikes alternate, few-flowered, p. 3.—Woods and hedges.

7. *V. chamædrys*, stem with 2 opposite rows of hairs; leaves ovate, inciso-serrate, wrinkled, sessile, p. 3.—Woods and hedges, common.

b. Root annual; flowers solitary, axillary.

8. *V. agrestis*, stem procumbent; leaves all petiolate, heart-ovate, inciso-serrate, shorter than the flower-stalks, p. 3.—Fields and waste places, common.

9. *V. arvensis*, stem erect; leaves heart-ovate, serrate, the lower ones petiolate, the floral leaves lanceolate, sessile, longer than the peduncle, p. 3.—Fields, old walls, &c. common.

10. *V. hederæfolia*, stem procumbent; leaves cordate, mostly 5-lobed, p. 3.—Hedges, tillage-fields, &c. common.

## XIX. OROBANCHEÆ.

### 1. OROBANCHE.

1. *O. major*, stem simple; cor. tubular; upper lip undivided, lower one in 3 sub-equal segments, lateral, acute, terminal one largest, obtuse; stam. glabrous; style downy, p. 106.—Woods, occasionally.

2. *O. minor*, stem simple; cor. tubular; stam. hairy; style smooth, p. 107.—Woods, occasionally.

3. *O. ramosa*, stem branched; cal. 4-cleft; cor. 5-cleft; lobes obtuse, entire, p. 107.



## XX. SOLANEÆ.

### 1. VERBASCUM.

1. *V. thapsus*, stem simple; leaves decurrent, woolly on both sides, p. 39. Schrader's Monogr. sect. 1. p. 17.—Common.

2. *V. lychnitis*, stem angulated, paniculated; leaves elliptico-oblong, p. 39. Schrader, sect. 2. p. 18.  $\beta$ .—Not frequent.

3. *V. nigrum*, stem slightly branched; leaves oblong, cordate, petiolate, irregularly crenate; flowers clustered, pedicellate, p. 40.—Hedges, occasionally.

4. *V. virgatum*, stem branched; leaves oblong-lanceolate, dentate, sessile; flowers clustered, sub-sessile, p. 40. Schrader. Monogr. sect. 2. p. 45. (*V. blattarioides*  $\beta$ .)—Hedges.

5. *V. blattaria*, leaves oblong, glabrous, serrate, semi-amplexicaul; peduncles solitary, 1-flowered, p. 40.—Hedges, occasionally.

### 2. HYOSCYAMUS.

1. *H. niger*, leaves sinuate, amplexicaul; flowers sessile, p. 40.—Waste spots, and on sands near the sea, occasionally.

### 3. SOLANUM.

1. *S. dulcamara*, stem unarmed, shrubby, climbing; upper leaves hastate; corymbs opposite the leaves, drooping, p. 40.—Moist hedges and beside ditches and streams, frequent.

2. *S. nigrum*, stem unarmed, herbaceous; leaves ovate, toothed, waved; umbels lateral, drooping, p. 41.—The seaside, occasionally.

## XXI. BORAGINEÆ.

### 1. MYOSOTIS.

1. *M. sylvatica*, racemes very long and lax; pedicels (in fruit) divergent, patent, longer than the cal.; cal. 5-cleft, connivent; cor. the limb expanded, longer than the tube, p. 32.—Woods, frequent.

2. *M. palustris*, racemes shortish; pedicels (in fruit) twice

the length of the calyx ; cal. 5-toothed, patent ; cor. the limb expanded, longer than the tube, p. 33.—Banks of streams, bogs, &c. frequent.

3. *M. arvensis*, racemes very long ; pedicels (in fruit) patent, twice as long as the calyx ; cal. 5-cleft, close ; cor. the limb erecto-patent, as long as the tube, p. 33.—Fields and waste places, frequent.

4. *M. versicolor*, racemes very long ; pedicels (in fruit) erecto-patent, shorter than the calyx ; cal. acute, 5-cleft, closed ; cor. the limb patent, shorter than the tube, p. 33.—In dry sterile situations.

## 2. LITHOSPERMUM.

1. *L. officinale*, stem erect, branched ; leaves lanceolate ; tube of the cor. as long as the cal. ; fruit smooth, p. 33.—In waste places, not unfrequent.

2. *L. arvensis*, stem erect ; leaves lanceolate ; segments of the cal. patent when in fruit ; cor. a little longer than the cal. ; fr. rugose, p. 34.—In corn-fields, occasionally.

3. *L. purpureo-ceruleum*, barren stems creeping and rooting ; flowering stems erect ; leaves lanceolate ; cor. much longer than the cal. ; the fr. smooth, p. 34.—Not frequent.

## 3. ANCHUSA.

1. *A. sempervirens*, leaves ovate, the lower ones petiolate ; peduncles axillary, 2-leaved ; flowers subcapitate, p. 34.—Hedges, occasionally.

## 4. CYNOGLOSSUM.

1. *C. officinale*, leaves lanceolate, attenuated at the base, sessile, pubescent ; Stam. shorter than the cor., p. 34.—Waste places, occasionally.

## 5. SYMPHYTUM.

1. *S. officinale*, leaves ovate-lanceolate, very decurrent, and winging the upper part of the stem, p. 34.—Banks of streams, frequent.

## 6. BORAGO.

1. *B. officinalis*, lower leaves obovate, attenuate at the base ; segments of the cor. ovate-acute, spreading, p. 35.—On rubbish, occasionally.

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7. ECHIUM.

1. *E. vulgare*, stem simple, bristly, tuberculated; leaves lanceolate, hispid; fl. in lateral spikes; stam. longer than the cor., p. 35.—Corn-fields and waste places, frequent.

8. LYCOPSIS.

1. *L. arvensis*, leaves lanceolate, repando-denticulate, hispid; cal. erect (while in flower) shorter than the tube of the cor., p. 35.—Fields, occasionally.

XXII. CONVULVULACEÆ.

1. CONVULVULUS.

1. *C. arvensis*, leaves sagittate with acute lobes; bractæas minute, remote from the flower, p. 37.—Fields and hedges, common.

2. *C. sepium*, leaves sagittate, with truncate lobes; bractæas large, cordate, close to the flower, p. 37.—Sheltered hedges in a good soil, frequent.

3. *C. soldanella*, leaves reniform, fleshy; peduncles with winged angles, p. 37.—On the sea-shore, frequent.

2. CUSCUTA.

1. *C. epithymum*, flowers sessile; cor. with a small fringed scale at the base of each stamen; stigmas simple, p. 46.—Parasitic on furze, &c. on exposed downs.

XXIII. GENTIANEÆ.

1. GENTIANA.

1. *G. amarella*, cal. 5-cleft, the segments equal; cor. 5-cleft, hypocrateriform, bearded in the orifice, p. 46.—Not frequent.

2. *G. campestris*, cal. with the 2 outer segments larger; cor. 4-cleft, hypocrateriform, p. 46.—Pastures, rare.

2. ERYTHRÆA.

1. *E. centaurium*, leaves ovate, oblong; flowers sessile, p. 41.—Fields, common.

## 3. CHLORA.

1. *C. perfoliata*, leaves perfoliate, p. 67.—Cliffs near the sea, rare.

## 4. MENYANTHES.

1. *M. trifoliata*, leaves ternate, p. 36.—In marshy situations, frequent.

## XXIV. APOCINEÆ.

## 1. VINCA.

1. *V. minor*, stem procumbent; leaves oblong-lanceolate, their margins glabrous; cal. segments lanceolate, glabrous, p. 43.—Hedges, occasionally.

2. *V. major*, stems ascending; leaves subcordate, the margins ciliated; cal. segments long, setaceous, p. 44.—Hedges, occasionally.

## XXV. OLEINEÆ.

## 1. FRAXINUS.

1. *F. excelsior*, leaflets lanceolate, acuminate, serrate, p. 2.—Woods and hedges.

## 2. LIGUSTRUM.

1. *L. vulgare*, leaves lanceolato-elliptical; panicle compact, p. 1.—Hedges, occasionally.

## XXVI. ERICEÆ.

## 1. ERICA.

1. *E. cinerea*, leaves ternate; anthers with 2 serrated appendages at the base; style somewhat exerted; stigma capitate, p. 68.—Woods and heathy downs, common.

2. *E. tetralix*, leaves in fours, ciliate; flowers capitate; anthers with 2 awns at the base; style the length of the corolla, p. 68.—Heaths and downs, common.

## 2. CALLUNA.

1. *C. vulgaris*, p. 68.—Heaths and downs, common

## XXVII. VACCINÆÆ.

## 1. VACCINIUM.

1. *V. myrtillus*, stem angular; leaves ovate, serrate, deciduous; peduncles 1-flowered, p. 68.—Woods and heathy downs, common.

## XXVIII. CAMPANULACÆÆ.

## 1. CAMPANULA.

1. *C. rotundifolia*, root leaves rounded, cordate, crenate; stem leaves the lower ones lanceolate, toothed, the upper linear, entire, p. 37.—Pastures, rare.

2. *C. hederacea*, stem lax, filiform; leaves cordate, 5-8 angled, glabrous, p. 38.—Bogs and on the banks of streams.

3. *C. hybrida*, leaves oblong, crenate; cor. shorter than the cal. p. 38.—Rare.

## 2. JASIONE.

1. *J. montana*, p. 38.—Hedges in dry situations, frequent.

## 3. LOBELIA.

1. *L. urens*, lower leaves obovate, denticulate; the upper ones lanceolate, serrate; flowers in racemes, p. 38.—Rare.

## XXIX. COMPOSITÆ.

## DIV. I. CICHORACÆÆ.

## 1. TRAGOPOGON.

1. *Tr. pratensis*, leaves undivided, glabrous, channelled, acuminate; peduncles cylindrical; invol. length of the cor., p. 128.—Pastures, not unfrequent.

## 2. PICRIS.

1. *P. hieracioides*, stem scabrous; leaves rough, lanceolate, toothed, p. 129.—Hedges and pastures, frequent.

## 3. SONCHUS.

1. *S. palustris*, leaves runcinate, sagittate at the base, the



edge rough; flowers sub-umbellate; pedun. and invol. with glandular hairs, p. 129.—Not frequent.

2. *S. arvensis*, leaves runcinate, toothed, ciliate, cordate at the base; flowers sub-umbellate; peduncles and invol. hispid, p. 129.—Tillage-fields, hedges, &c. frequent.

3. *S. oleraceus*, leaves oblong-lanceolate, sinuate, amplexicaul; invol. glabrous, p. 129.—Waste places, cultivated ground, &c. common.

#### 4. LEONTODON.

1. *L. taraxicum*, leaves runcinate, glabrous, toothed; invol. outer scales reflexed, p. 130.—Hedges, waste places, &c. common.

2. *L. palustre*, leaves lanceolate, sinuately toothed, subglabrous; invol. outer scales erect, appressed, p. 130.—Not frequent.

#### 5. APARGIA.

1. *A. hispida*, leaves lanceolate, scabrous, dentate with forked hairs; scape 1-flowered; invol. hairy; pericarps all with a feathered pappus, p. 130.—Dry pastures, occasionally.

2. *A. hirta*, leaves lanceolate, scabrous, dentate; scape 1-flowered; invol. subglabrous; pericarps the outer ones with a scaly pappus, p. 130.—Pastures, frequent.

3. *A. autumnalis*, leaves lanceolate, toothed, or pinnatifid, subglabrous; scape branched, scaly above; pedicel swelling beneath the invol., p. 130.—Fields, &c. common.

#### 6. HIERACIUM.

1. *H. pilosella*, with creeping scyons; leaves ovate-lanceolate, entire, downy beneath; scape 1-flowered, p. 131.—Dry banks and hedges, common.

2. *H. murorum*, stem subcorymbose and downy above, few-flowered, with 1 petiolate leaf; radical leaves ovate, on longish peduncles, dentate at the base, hairy, p. 131.—Exposed rocks, occasionally.

3. *H. sabaudum*, stem erect, branched above, many-flowered; leaves ovate-lanceolate, toothed, serrate, semi-amplexicaul, hairy beneath, p. 131.—Woods, occasionally.

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4. *H. umbellatum*, stem erect, simple, leafy; leaves sessile, linear-lanceolate, subglabrous, slightly toothed; flowers subumbellate; invol. glabrous, p. 131.—Woods, frequent.

7. *CREPIS*.

1. *C. tectorum*, stem glabrous; leaves glabrous, radical ones runcinate, upper ones linear, sagittate, embracing the stem; panicle subcorymbose; invol. downy, p. 131.—Hedges and pastures, common.

8. *HYPOCHÆRIS*.

1. *H. radicata*, stem branched, leafless, glabrous; leaves runcinate, obtuse, scabrous; peduncles scaly, p. 131.—Hedges and pastures, common.

9. *LAPSANA*.

1. *L. communis*, stem panicled; leaves ovate, petiolate, angularly toothed; invol. when in fruit, angular, p. 132.—Waste places, &c. common.

10. *CICHORIUM*.

1. *C. Intybus*, leaves runcinate; flowers sessile, axillary, in pairs, p. 132.—Fields, occasionally.

DIV. 2. *CINAROCEPHALÆ*.

11. *ARCTIUM*.

1. *A. lappa*, leaves cordate, petiolate, p. 132.—Waste places, way-sides, &c. common.

12. *SERRATULA*.

1. *S. tinctoria*, leaves acutely serrate, glabrous, pinnatifid, terminal lobe largest; flowers in a small clustered umbel, p. 132.—Woods, moist pastures, and sides of streams, occasionally.

13. *CARDUUS*.

τ. Leaves decurrent.

1. *C. nutans*, leaves spinous; flowers drooping; invol. scales lanceolate, cottony, upper ones spreading, p. 133.—Waste places, dry pastures, &c. frequent.

2. *C. acanthoides*, leaves sinuate, spinous; invol. globose,

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sub-sessile, scales linear, slightly recurved, p. 133.—Waste places, &c.

3. *C. tenuiflorus*, leaves sinuate, spinous, cottony beneath; invol. subcylindrical, clustered, sessile, their scales lanceolate, erect, p. 133.—Waste places.

τ τ. Leaves sessile.

4. *C. marianus*, leaves waved, spinous, embracing the stem, hastate, radical ones pinnatifid; invol. subfoliaceous, recurved, spinous, p. 133.—Pastures, occasionally.

14. CNICUS.

τ. Leaves decurrent.

1. *Cn. lanceolatus*, leaves hispid, pinnatifid, their segments mostly 2-lobed, divaricate, spinous; invol. ovate, downy, its scales lanceolate, spreading, p. 133.—Waste places, common.

2. *Cn. palustris*, leaves pinnatifid, scabrous, spinous; invol. ovate, clustered, its scales ovato-lanceolate, mucronate, appressed, p. 134.—In wet situations, common.

τ τ. Leaves sessile.

3. *Cn. arvensis*, stem paniced; leaves pinnatifid, spinous; invol. ovate, its scales mucronate, appressed, p. 134.—Fields, &c. frequent.

4. *Cn. eriophorus*, leaves pinnatifid, every other segment pointing upwards, spinous, scabrous; invol. spherical, woolly, p. 134.—In waste places, &c. frequent.

5. *Cn. pratensis*, leaves lanceolate, waved, unequally spinous, cottony beneath; flowers mostly solitary, p. 134.—Fields, occasionally.

6. *Cn. acaulis*, stemless; invol. glabrous, p. 134.—On exposed downs, occasionally.

15. CARLINA.

1. *C. vulgaris*, stem corymbose, pubescent, many-flowered; leaves lanceolate, unequally spinous and sinuate, downy beneath, p. 134.—Dry heaths and pastures, frequent.

16. CENTAUREA.

1. *C. nigra*, lower leaves angularly lyrate, upper ones

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ovate-lanceolate; invol. scales ovate, fringed with long capillary teeth, p. 141.—Hedges, fields, &c. common.

2. *C. cyanus*, leaves linear, entire, the lower ones toothed; invol. with lanceolate, serrated leaves, p. 142.—Tillage fields, common.

3. *C. scabiosa*, leaves pinnatifid, roughish, segments lanceolate, acute; invol. with ovate, pubescent, ciliated scales, p. 142.—Fields and hedges, common.

4. *C. calcitrapa*, stem spreading, divaricate, hairy; leaves pinnatifid, toothed; invol. sessile, its scales imbricate, cartilaginous, terminating in a compound spine, p. 142.—On the sea-coast, occasionally.

DIV. 3. CORYMBIFERÆ.

17. BIDENS.

1. *B. cernua*, leaves lanceolate, serrate, undivided; bractæ lanceolate, entire; flowers drooping; pericarps with 4 erect spines, p. 135.—Beside ditches, occasionally.

2. *B. tripartita*, leaves 3-parted, segments lanceolate, deeply serrate; pericarp with 2-3 spines, p. 135.—Marshy places, occasionally.

18. EUPATORIUM.

1. *E. cannabinum*, leaves 3-5-parted, subpetioled, their segments lanceolate, deeply serrate, p. 135.—Wet places, common.

19. TANACETUM.

1. *T. vulgare*, leaves bipinnatifid, cut, serrate, p. 136.—Hedges, &c. frequent.

20. ARTEMISIA.

1. *A. maritima*, leaves pinnate, downy, the uppermost undivided; racemes drooping; flowers oblong, sessile; recept. naked, p. 136.—Sea-coast, frequent.

2. *A. Gallica*, leaves pinnate, downy, the radical ones capillary, the uppermost undivided; racemes erect; flowers oblong, sessile; recept. naked, p. 136.—Sea-coast.

3. *A. absinthium*, leaves covered with silky down, lower ones bi-tripinnatifid, upper ones pinnatifid, uppermost entire; flowers hemispherical, drooping; recept. hairy, p. 136.—Waste places, frequent.

4. *A. vulgaris*, leaves pinnatifid, their segments cut, downy beneath; flowers ovate; recept. naked, p. 136.—Hedges and waste places, common.

21. GNAPHALIUM.

1. *G. uliginosum*, stem much branched, diffuse, woolly; leaves linear-lanceolate, downy; flowers in terminal, crowded clusters, shorter than the leaves, p. 137.—Wet, sandy, and occasionally inundated places, common.

2. *G. minimum*, stem erect, branched, branches spreading; leaves lanceolate, acute, cottony; flowers conical, in lateral and terminal clusters, longer than the leaves, p. 137.—Sandy pastures, occasionally.

3. *G. germanicum*, stem erect, forked at the summit; leaves lanceolate, downy, acute; flowers capitate in the axils of the branches, and terminal, p. 137.—Fields, waste places, &c. common.

22. CONYZA.

1. *C. squarrosa*, leaves ovate-lanceolate, downy, lower ones crenate, upper ones entire; flowers in a corymb; invol. with leafy, recurved scales, p. 137.—Hedges, occasionally, especially in a calcareous soil.

23. TUSSILAGO.

1. *T. farfara*, leaves cordate, angular, toothed, cottony beneath; scape imbricated with scales; 1-flowered; fl. rayed, p. 137.—Fields, common.

2. *T. petasites*, leaves cordate, unequally toothed, downy beneath; lobes approximating; scape many-flowered; fl. all tubular, p. 138.—River sides and other wet situations, common.

24. SENECIO.

τ. Ray revolute, or 0.

1. *S. vulgaris*, leaves pinnatifid, toothed, semi-amplexicaul; fl. in clustered corymbs, without ray, p. 138.—Gardens and waste places, common.

2. *S. sylvaticus*, leaves sessile, pinnatifid, lobed and toothed; invol. scales short, glabrous; ray revolute, p. 138.—Dry banks and hedges, frequent.



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११. Ray patent.

3. *S. tenuifolius*, leaves pinnatifid, sub-revolute, pubescent beneath, p. 138.—Waste spots, occasionally.

4. *S. Jacobæa*, leaves lyrate, bi-pinnatifid, divaricated, toothed, glabrous; ray spreading; pericarps hairy, p. 138.—Hedges and pastures, common.

5. *S. aquaticus*, leaves lyrate, serrate, glabrous, lowermost obovate, undivided; invol. hemispherical; pericarps glabrous, p. 138.—Wet places, frequent.

25. ASTER.

1. *A. tripolium*, stem glabrous, corymbose; leaves linear-lanceolate, fleshy, obscurely 3-nerved; invol. with imbricated, lanceolate, obtuse, membranaceous scales, p. 139.—Sea-coast and salt marshes, common.

26. SOLIDAGO.

1. *S. virgaurea*, root leaves elliptical, those of the stem lanceolate; racemes paniced, erect, crowded, p. 139.—Woods.

27. INULA.

1. *I. Helenium*, leaves amplexicaul, ovate, slightly toothed, ragged, downy beneath; invol. scales foliaceous, downy, p. 139.—Orchards, rare.

2. *I. dysenterica*, stem paniced, woolly; leaves oblong, cordate, amplexicaul, ragged, downy; invol. scales setaceous, p. 139.—Wet places, common.

28. BELLIS.

1. *B. perennis*, leaves obovate, crenate; scape naked, 1-flowered, p. 139.—Pastures, common.

29. CHRYSANTHEMUM.

1. *C. leucanthemum*, stem erect, branched; radical leaves obovate, petiolate; stem leaves amplexicaul, oblong, obtuse, cut, pinnatifid at the base, p. 139.—Pastures, common.

2. *C. segetum*, leaves amplexicaul, toothed at the base, cut, serrate above, p. 140.—Tillage-fields, occasionally.

30. PYRETHRUM.

1. *P. parthenium*, stem erect; leaves petioled, flat, bi-pin-

nate, the segments ovate, cut; peduncles branched, corymbose; invol. hemispherical, pubescent, p. 140.—Waste places, occasionally.

2. *P. inodorum*, stem branched, spreading; leaves sessile, bi-pinnatifid, with capillary segments; pappus entire, p. 140.—Dry pastures, occasionally.

3. *P. maritimum*, stem diffused, branched; leaves bi-pinnatifid; the segments linear, fleshy, awnless; pappus lobed, p. 140.—On the sea-coast.

### 31. MATRICARIA.

1. *M. chamomilla*, leaves glabrous, bi-pinnatifid, the segments capillary; invol. nearly plane, its scales obtuse, p. 140.—Open pastures, occasionally.

### 32. ANTHEMIS.

1. *A. nobilis*, leaves bi-pinnate, the segments linear, subulate, slightly downy; recept. with membranous scales, shorter than the corolla, p. 141.—Dry heathy pastures, occasionally.

2. *A. arvensis*, leaves bi-pinnatifid, pubescent, the segments linear-lanceolate; recept. conical, its scales lanceolate, longer than the corolla; pappus entire, p. 141.—Pastures, &c.

3. *A. cotula*, leaves bi-pinnatifid, glabrous, their segments subulate; recept. conical, its scales setaceous; pappus none, p. 141.—Pastures, frequent.

### 33. ACHILLEA.

1. *Ac. ptarmica*, leaves linear-lanceolate, acuminate, sharply serrate, p. 141.—Boggy situations, frequent.

2. *Ac. millefolium*, leaves bi-pinnate, slightly hairy, their segments linear, toothed, acute, p. 141.—Pastures, road-sides, &c. common.

## XXX. DIPSACEÆ.

### 1. DIPSACUS.

1. *D. fullonum*, leaves connate; invol. spreading, or reflexed; recept. with hooked scales, p. 24.—Hedges, rare.

2. *D. sylvestris*, leaves opposite; invol. curved upwards; recept. with straight scales, p. 25.

2. SCABIOSA.

1. *S. succisa*, leaves simple; cor. cleft into 4 equal segments, p. 25.—Woods, frequent.

2. *S. arvensis*, stem leaves pinnatifid; cor. unequally 4-cleft, radiating, p. 25.—Fields, common.

3. *S. columbaria*, radical leaves ovate, and lyrate, or crenate, cauline ones pinnatifid, with linear segments; cor. 5-cleft, radiating, p. 25.—Cliffs on the southern coast.

XXXI. VALERIANEÆ.

1. VALERIANA.

τ. Cor. spurred, stam. 1.

1. *V. rubra*, leaves ovate-lanceolate, p. 5.—Old walls, occasionally.

τ τ. Cor. gibbous at the base, stam. 3.

2. *V. officinalis*, leaves all pinnate; leaflets lanceolate, serrate, nearly uniform, p. 5.—Banks of streams, &c. frequent.

3. *V. dioica*, radical leaves ovate, simple, those of the stem pinnatifid; flowers diœcious, p. 5.—Wet meadows, occasionally.

2. FEDIA.

1. *F. olitoria*, flowers capitate; fruit roundish, inflated, tridentate, p. 6.—Hedges, corn-fields, &c. common.

2. *F. dentata*, flowers corymbose, with a single flower in the upper division of the stem; fruit obpyriform, with three unequal teeth, p. 6.—Fields and hedge-banks, occasionally.

XXXII. RUBIACEÆ.

1. SHERARDIA.

1. *S. arvensis*, leaves about 6 in a whorl; flowers terminal, sessile, p. 26.—Dry pastures, common.

2. ASPERULA.

1. *A. odorata*, leaves lanceolate, about 8 in a whorl;

flowers paniculate, on longish stalks; fruit hispid, p. 26.—Woods and hedges, occasionally.

2. *A. cynanchica*, leaves linear, about 4 in a whorl; flowers umbellate; fruit glabrous, p. 26.—Open downs, rare.

### 3. GALIUM.

τ. Fruit glabrous, flowers yellow.

1. *G. verum*, leaves linear, grooved, entire, about 8 in a whorl; flowers in dense panicles, p. 26.—Dry hedges, common.

2. *G. cruciatum*, leaves ovate, hairy, 4 in a whorl; peduncles 2-leaved; flowers lateral, clustered, p. 26.—Hedges, &c. frequent.

ττ. Fruit glabrous, flowers white.

3. *G. palustre*, stem lax, spreading, branched; leaves 4-6 in a whorl, oblong-lanceolate, obtuse, unequal in size, p. 26.—Frequent in wet places.

4. *G. uliginosum*, stem rough, branched; leaves 6 in a whorl, lanceolate, mucronate, the margins rough, with reflexed prickles, p. 27.—Swampy situations, frequent.

5. *G. saxatile*, stem much branched, procumbent, glabrous; leaves 6 in a whorl, obovate, mucronate, p. 27.—On heathy downs, common.

6. *G. mollugo*, leaves about 8 in a whorl, elliptical, mucronate, rough at the margin; flowers in large loosely-branched panicles, p. 27.—Woods and hedges, common.

τττ. Fruit hispid.

7. *G. aparine*, leaves 6-8 in a whorl, linear-lanceolate, their margins and keel, and the weak stem, rough with reflexed prickles, p. 27.—Hedges, common.

### 4. RUBIA.

1. *R. peregrina*, leaves 4-6 in a whorl, elliptical, smooth, and shining above; cor. 5-parted, p. 27.—Hedges, frequent.

### XXXIII. LONICERÆÆ.

#### 1. LONICERA.

1. *L. periclymenum*, leaves all distinct; flowers ringent, capitate, terminal, p. 41.—Woods and hedges, common.

#### 2. VIBURNUM.

1. *V. lantana*, leaves cordate, serrate, veined, downy beneath, p. 54.—Woods and hedges, frequent.

2. *V. opulus*, leaves 3-lobed, acuminate, serrate, glabrous, on glandular petioles, p. 54.—Woods and hedges, frequent.

#### 3. SAMBUCUS.

1. *S. ebulus*, stem herbaceous; leaves pinnate; leaflets lanceolate; stipules foliaceous; cymes with 3 main branches, p. 55.—Hedges, rare.

2. *S. nigra*, stem arborescent; leaves pinnate; leaflets ovate; cymes with 5 main branches, p. 55.—Woods and hedges, common.

### XXXIV. HEDERACEÆ.

#### 1. HEDERA.

1. *H. helix*, leaves 5-lobed, the lobes angular; floral leaves ovate; umbel erect, p. 43.—Trees, rocks, &c. common.

#### 2. CORNUS.

1. *C. sanguinea*, arborescent; branches straight; leaves ovate, green on both sides; cymes without involucre, p. 29.—Woods and sheltered situations, frequent.

### XXXV. LORANTHÆÆ.

#### 1. VISCUM.

1. *V. album*, stem dichotomous; leaves lanceolate, obtuse; fl. in axillary heads, p. 159.—Orchards, rare.



### XXXVI. UMBELLIFERÆ.

#### 1. BUPLEURUM.

1. *B. odontites*, involuella of 5 ovate, awned, 3-ribbed leaves; branches widely spreading; umbels all stalked; leaves lanceolate, p. 49.—Rare.

#### 2. ERYNGIUM.

1. *E. maritimum*, radical leaves roundish, plaited, spinous; scales of the receptacle 3-cleft, p. 47.—Along the sea-coast, frequent.

2. *E. campestre*, leaves pinnately lobed, amplexicaul; scales of the receptacle lanceolate, p. 47.—Rare.

#### 3. HYDROCOTYLE.

1. *H. vulgaris*, leaves peltate, orbicular, crenate; umbels of 5-8 flowers, p. 47.—In boggy situations, common.

#### 4. SANICULA.

1. *S. Europæa*, lower leaves palmate; flowers sessile, in pedunculate heads, p. 47.—Woods, common.

#### 5. ANETHUM.

1. *A. fœniculum*, leaves tri-pinnate; leaflets setaceous, reflexed, p. 53.—Cliffs near the sea, occasionally.

#### 6. TORILIS.

1. *T. anthriscus*, stem and branches erect; leaves bi-pinnate; involucre many-leaved; umbel terminal, of many close rays, p. 48.—Hedges, common.

2. *T. infesta*, branches divaricate; leaves pinnate; involucre of 1 leaf, or none; umbels terminal, of many close rays, p. 48.—Tillage fields, not frequent.

3. *T. nodosa*, stem prostrate; leaves bi-pinnate; involucre many-leaved; umbels simple, axillary, sub-sessile, clustered, p. 48.—Waste places, fields, &c. frequent.

#### 7. DAUCUS.

1. *D. carota*, stem hispid; leaves tri-pinnate; leaflets linear-

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lanceolate, cut; umbel when in fruit concave, p. 48.—Fields and pastures, common.

2. *D. maritimus*, stem woolly; leaflets dilated, fleshy, rounded; umbel flat, or subconvex in fruit.—Along the southern coast, frequent.

8. BUNIUM.

1. *B. bulbocastanum*, leaves tri-pinnate, linear, glabrous; involucre subtriphyllous, p. 48.—Hedges, common.

9. CONIUM.

1. *C. maculatum*, stem branched, smooth, spotted; leaves tri-pinnate, p. 49.—Hedges and waste places, frequent.

10. PEUCEDANUM.

1. *P. silaus*, leaves tri-pinnate; leaflets linear, undivided; involucre of 1-2 leaves, p. 49.—Meadows, frequent.

11. CRITHMUM.

1. *C. maritimum*, leaves tri-ternate; leaflets lanceolate, fleshy, p. 49.—Cliffs on the sea-coast.

12. HERACLEUM.

1. *H. sphondylium*, leaves pinnate; leaflets broad, subpinnatifid, cut-serrate, p. 49.—Hedges and pastures, common.

13. SIUM.

1. *S. angustifolium*, stem erect; leaves pinnate; leaflets unequally lobed and serrated; umbels pedunculate, opposite the leaves, p. 50.—Beside streams, rare.

2. *S. nodiflorum*, stem procumbent; leaves pinnate, leaflets ovate, sub-equally serrate; umbels sessile, opposite the leaves, p. 50.—In wet situations, common.

3. *S. repens*, stem creeping and rooting; leaves pinnate; leaflets broadly ovate, cut and toothed; umbels shortly pedunculate, opposite the leaves, p. 50.—Wet situations.

14. SISON.

1. *S. inundatum*, stem creeping; lower leaves capillary, multifid, umbels mostly 2-rayed, p. 50.—Bogs and wet situations, occasionally.

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2. *S. segetum*, stem erect; leaves pinnate; leaflets broadly ovate, serrate; umbels drooping, their rays unequal, p. 51.—Fields, frequent.

3. *S. amomum*, stem erect; leaves pinnate; leaflets ovate, cut-serrate; umbels erect, p. 51.—Hedges, frequent.

15. CENANTHE.

1. *C. fistulosa*, root creeping, stoloniferous; stem leaves pinnate, their main petiole cylindrical, tubular, p. 51.—Ditches and streams.

2. *C. pimpinelloides*, radical leaves wedge-shaped, cloven, those of the stem linear, entire, very long; involucre of many linear leaves, p. 51.—Beside streams, occasionally.

3. *C. crocata*, all the leaflets wedge-shaped, cut, nearly equal; involucre of many leaves, p. 51.—Wet meadows and sides of streams, common.

16. PHELLANDRIUM.

1. *P. aquaticum*, leaves tri-pinnate; segments divaricate; umbels axillary, p. 52.—Streams and ditches.

17. ÆTHUSA.

1. *Æ. cynapium*, p. 52.—Fields and hedges, common.

18. SCANDIX.

1. *S. pecten-veneris*, stem rough; leaves tri-pinnate, linear, multifid, p. 52.—Tillage fields, common.

19. ANTHRISCUS.

1. *A. vulgaris*, stem smooth; leaves tri-pinnate, leaflets obtuse; umbels mostly lateral, p. 52.—Waste places, common.

20. CHÆROPHYLLUM.

1. *Ch. sylvestre*, stem smooth, slightly swelling below the joints; leaves tri-pinnate; fruit quite smooth, p. 52.—Hedges, frequent.

2. *Ch. temulentum*, stem rough, swelling below the joints; leaves bi-pinnate; fruit obsoletely ribbed, p. 53.—Fields and hedges, common.

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21. SMYRNIUM.

1. *S. olusatrum*, stem leaves ternate, serrate, petiolate, p. 53.—Occasionally in hedges.

22. PIMPINELLA.

1. *P. saxifraga*, radical leaves pinnate, leaflets roundish, sharply serrate; cauline leaves bi-pinnate, their leaflets linear, p. 53.—Dry pastures, common.
2. *P. magna*, leaves all pinnate, leaflets all ovate, unequally 3-lobed, p. 54.—Hedges, rare.

23. APIUM.

1. *A. graveolens*, stem furrowed; cauline leaves ternate, with wedge-shaped, irregularly-cut leaflets, p. 54.—Marshy places, occasionally.

24. ÆGOPODIUM.

1. *Æ. podagraria*, p. 54.—Hedges, occasionally, chiefly near cottages.

XXXVII. SAXIFRAGÆ.

1. SAXIFRAGA.

1. *S. tridactylites*, stem branched; lower leaves mostly trifid, their segments short and linear, upper ones mostly simple, spatulate; petals a little longer than the calyx, p. 71.—Walls, roofs, and dry situations, frequent.

2. CHRYSOSPLENIUM.

1. *C. oppositifolium*, leaves opposite, p. 71.—Wet, shady, and boggy situations, common.

3. ADOXA.

1. *A. moschatellina*, p. 71.—Shady moist hedges, frequent.

XXXVIII. GROSSULARIÆ.

1. RIBES.

1. *R. rubrum*, thornless; racemes glabrous, pendulous; flowers plane; petals obcordate, p. 42.—Woods and beside streams, occasionally.



2. *R. nigrum*, thornless; leaves punctato-glandulose beneath; racemes pubescent, pendulous, with a simple flower-stalk at the base; flowers campanulate, p. 42.—Banks of streams, occasionally.

3. *R. grossularia*, branches prickly; peduncles hairy; pedicels single-flowered, with a pair of minute bracteas; fruit hairy, p. 43.—Hedges, occasionally, scarcely an indigenous plant.

### XXXIX. ONAGRARIÆ.

#### 1. CIRCÆA.

1. *C. lutetiana*, stem erect, pubescent; leaves ovate, toothed, p. 2.—Woods and sheltered hedges, frequent.

#### 2. EPILOBIUM.

1. *E. hirsutum*, root creeping; stem much branched; leaves semi-amplexicaul, ovate-lanceolate, hairy, p. 66.—Sides of ditches and streams, frequent.

2. *E. parviflorus*, root fibrous; stem sub-simple, very downy; leaves sessile, lanceolate; stigma 4-cleft, p. 66.—Sides of ditches and streams, frequent.

3. *E. palustre*, stem round; leaves linear-lanceolate, subdentate, sessile; stigma undivided, p. 67.—Bogs and beside streams, frequent.

4. *E. tetragonum*, stem 4-angled; leaves lanceolate, sessile, glabrous, toothed; stigma undivided, p. 67.—In wet situations, common.

5. *E. montanum*, stem round; leaves ovate, acute, glabrous, toothed, shortly petiolate; stigma 4-cleft, p. 67.—Hedges, common.

6. *E. roseum*, stem obscurely 4-angled; leaves ovate, petiolate, toothed; stigma undivided, p. 67.—Not frequent.

### XL. SALICARIÆ.

#### 1. LYTHRUM.

1. *L. salicaria*, leaves opposite, cordato-lanceolate; flowers spiked; stamens 12, p. 79.—Banks of streams and wet situations, common.



## 2. PEPLIS.

1. *P. portula*, leaves obovate; flowers axillary, solitary, p. 63.—Wet situations, frequent.

## XLI. ILLECEBREÆ.

## 1. SCLERANTHUS.

1. *S. annuus*, leaves linear, subulate; cal. segments erect after flowering, p. 72.—Corn-fields, &c. frequent.

## 2. ILLECEBRUM.

1. *I. verticillatum*, stems procumbent; flowers in whorls, naked, p. 43.—Boggy situations, rare.

## XLII. POMACEÆ.

## 1. PYRUS.

1. *P. communis*, leaves simple, serrate; flowers in a corymb, p. 83.—Woods, rare.

2. *P. malus*, leaves simple, serrate; flowers in a simple sessile umbel, p. 83.—Woods, occasionally.

3. *P. torminalis*, leaves simple, subcordate, serrate, 7-lobed, lower lobes divaricate, p. 83.—Woods and hedges, occasionally.

4. *P. aucuparia*, leaves pinnated, glabrous; flowers corymbose; styles 3-4, p. 83.—Woods and rocky situations.

5. *P. domestica*, leaves pinnate, leaflets villose beneath; flowers paniculate, p. 83.—Rocky situations, occasionally.

6. *P. aria*, leaves ovate, cut and serrate, white and downy beneath; flowers corymbose, p. 84.—Woods and hedges, occasionally.

## 2. CRATÆGUS.

1. *C. oxycantha*, branches spinose; leaves 3 or 5-lobed, serrate, glabrous; flowers corymbose; styles 1-2, p. 82.—Hedges, woods, &c. common.

## 3. MESPILUS.

1. *M. Germanica*, unarmed; leaves lanceolate; fl. solitary, sessile, terminal.—Rare.

## XLIII. ROSACEÆ.

## 1. ROSA.

## τ. Pimpinellifoliæ.

1. *R. spinosissima*, arms unequal; leaflets plane, without pubescence, simply serrate, p. 84.—Hedges, occasionally.

## ττ. Villosæ.

2. *R. tomentosa*, leaflets ovate, somewhat acute; fruit hispid or naked, p. 84.—Hedges, occasionally.

## τττ. Rubiginosæ.

3. *R. rubiginosa*, prickles hooked; leaflets rugose, opaque; calyxes and peduncles hispid, p. 85.—Woods and hedges, occasionally.

## ττττ. Caninæ.

4. *R. canina*, leaflets rigid, ovate; germens 20-30, p. 85.—Woods and hedges, common.

## τττττ. Systylæ.

5. *R. arvensis*, shoots flagelliform; prickles unequal, falcate; leaflets glaucous beneath, p. 86.—Woods and hedges, common.

## 2. GEUM.

1. *G. urbanum*, root leaves lyrate, pinnate; stem leaves ternate; flowers erect; awns naked, p. 89.—Woods and hedges, frequent.

2. *G. rivale*, root leaves lyrate, interruptedly pinnate; stem leaves ternate; flowers drooping; awns feathered, p. 89.—Woods, occasionally.

## 3. AGRIMONIA.

1. *A. eupatoria*, stem leaves interruptedly pinnate, terminal leaflet on a petiole; fruit hispid, p. 79.—Hedges and waste places, common.

## 4. RUBUS.

1. *R. idæus*, stem nearly erect, prickly; leaves pinnate,

leaflets 3-5, whitish and very downy beneath; petioles channelled, p. 87.—In woods, occasionally.

2. *R. corylifolius*, stems diffuse, rounded, with scattered nearly straight prickles; leaves pinnate; leaflets 3-5, hairy beneath, p. 87.—Hedges and woods, common.

3. *R. fruticosus*, stems diffuse, angular, with hooked prickles on the angles; leaves pinnate; leaflets mostly 5, petiolate, hoary with pubescence beneath, p. 87.—Woods and hedges, common.

#### 5. FRAGARIA.

1. *F. vesca*, plant stoloniferous; pedicels with appressed, sericeous hairs, p. 87.—Woods and hedges, common.

#### 6. POTENTILLA.

1. *P. anserina*, stem creeping; leaves interruptedly pinnate, deeply serrate, silky; peduncles axillary, 1-flowered, p. 88.—Road-sides and moist banks, frequent.

2. *P. verna*, stem decumbent; leaves digitate, those of the root in sevens or fives; leaflets obovate, serrate, green on both sides, hairy beneath; petals obcordate, longer than the calyx, p. 88.—Woods, frequent.

3. *P. reptans*, stem sarmentose; leaves quinate; leaflets obovate, wedge-shaped, serrate; peduncles axillary, 1-flowered, longer than the leaves, p. 88.—Woods, hedges, and dry banks, common.

4. *P. nemoralis*, stem prostrate; leaves ternate, petioled; leaflets obovate, wedge-shaped, deeply toothed; petals mostly 4, nearly twice the length of the calyx, p. 88.—Fields and waste places, common.

5. *P. officinalis*, stem sub-erect, dichotomous; leaves ternate, all sessile; leaflets lanceolate, cut-serrate, p. 88.—Heaths and dry pastures, frequent.

6. *P. fragaria*, stems procumbent; leaves ternate, leaflets obovate, deeply serrate, silky; petals the same length as the calyx, p. 88.—Dry banks and hedges, frequent.

#### 7. ALCHEMILLA.

1. *A. vulgaris*, leaves plaited, many-lobed, serrate, p. 30.—Pastures, rare.

2. *A. arvensis*, leaves 3-lobed, lobes irregularly and deeply cut; flowers axillary, sessile, p. 30.—Hedges, common.

#### 8. SANGUISORBA.

1. *S. officinalis*, spikes ovate; stamens the length of the perianth, p. 29.—Meadows and woods, not frequent.

#### 9. PRUNUS.

1. *Pr. cerasus*, leaves ovato-lanceolate; flowers in sub-sessile umbels, p. 81.—Woods, occasionally.

2. *Pr. domestica*, branches unarmed; leaves ovate-lanceolate; peduncles solitary, or in pairs, p. 82.—Woods, scarcely indigenous.

3. *Pr. insititia*, branches ending in a spine; leaves ovate-lanceolate, pubescent beneath; peduncles mostly in pairs, p. 82.—Hedges, occasionally.

4. *Pr. spinosa*, branches very spinose; leaves elliptico-lanceolate; peduncles mostly solitary, p. 82.—Hedges, common.

#### 10. SPIRÆA.

1. *S. filipendula*, leaves interruptedly pinnate; leaflets uniform, cut; flowers cymose; styles many, p. 84.—Cliffs, near the sea.

2. *S. ulmaria*, leaves interruptedly pinnate, serrate, pubescent beneath, terminal leaflet largest and lobed; flowers in compound cymes, p. 84.—Meadows, banks of streams, &c. common.

### XLIV. LEGUMINOSÆ.

#### 1. GENISTA.

1. *G. scoparia*, branches unarmed, angular; leaves oblong, ternate or solitary; flowers axillary, on short peduncles; legume hairy on the margin, p. 119.—Dry exposed downs, &c. abundant.

2. *G. Anglica*, stem declined, spinous, spines simple and compound; flowering branches unarmed; flowers axillary,

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sub-racemose; legumes glabrous, p. 119.—Bogs and heaths, occasionally.

2. ULEX.

1. *U. Europæus*, branchlets erect; bractæ ovate, lax; cal. teeth minute, connivent, p. 119.—Brakes and hedges, common.

2. *U. nanus*, branches declining; bractæ minute, appressed; cal. teeth lanceolate, spreading, p. 119.—On exposed downs, common.

3. ONONIS.

1. *O. arvensis*, stem hairy; branches becoming spinous; lower leaves ternate, upper ones simple, entire at the base, p. 120.—Fields and hedges, common.

4. ANTHYLLIS.

1. *A. vulneraria*, leaves pinnated, unequal; flowers in a double terminal head, p. 120.—Cliffs on the southern coast.

5. OROBUS.

1. *O. tuberosus*, stem simple, winged; leaves pinnate, leaflets 2-4 pair, lanceolate, glaucous beneath; stipules half arrow-shaped, p. 120.—Woods, heaths, &c. frequent.

6. LATHYRUS.

1. *L. aphaca*, leaves 0; tendrils simple; stipules large, heart-arrow-shaped; peduncles 1-flowered, p. 120.—Rare.

2. *L. nissolia*, leaves simple, lanceolate, without tendrils; stipules awl-shaped; peduncles 1-2-flowered, p. 121.—Near the sea-coast, abundant.

3. *L. pratensis*, petioles tendrilled, with 2 lanceolate, 3-nerved leaflets; stipules arrow-shaped, as large as the leaflets; peduncles many-flowered, p. 121.—Woods and pastures, common.

4. *L. sylvestris*, stem winged; petioles with 2 ensiform leaflets, tendrilled; peduncles 4-5-flowered, p. 121.—Cliffs near the coast, frequent.

7 VICIA.

1. *V. sylvatica*, leaflets elliptical-oblong, mucronate; stipules lunate, deeply toothed at the base; peduncles many-



flowered, longer than the leaves, p. 121.—Hedges and woods, occasionally.

2. *V. cracca*, leaflets lanceolate, slightly hairy; stipules half-arrow-shaped, sub-entire; peduncles longer than the leaves, many-flowered; flowers imbricate, p. 121.—Woods and hedges, common.

3. *V. sativa*, lower leaves retuse; stipules toothed, spotted; flowers sessile, sub-binate, legume sub-erect; seeds smooth, p. 121.—Tillage fields, common.

4. *V. lathyroides*, leaflets 2-3-paired, lower ones retuse; stipules entire; flowers sessile, solitary; legumes glabrous, erect; seeds tuberculate, p. 122.—Hedges, occasionally.

5. *V. sepium*, leaves many-paired, leaflets ovate, obtuse, outer ones gradually smaller; flowers mostly in fours, sub-petiolate; legumes erect, glabrous, p. 122.—Woods and hedges, common.

6. *V. Bithynica*, leaflets 2-4 pair, ovate-lanceolate; stipules toothed; flowers peduncled, solitary or in pairs; legumes erect, rough, p. 122.—Cliffs along the southern coast.

### 8. ERVUM.

1. *E. tetraspermum*, leaflets linear-oblong, obtuse; peduncles 2-flowered; legumes 4-seeded, glabrous, p. 122.—Hedges, frequent.

2. *E. hirsutum*, leaflets linear-oblong, truncate; peduncles many-flowered; legumes 2-seeded, hairy, p. 122.—Corn-fields, hedges, &c. frequent.

### 9. ORNITHOPUS.

1. *O. 'perpusillus*, leaves pinnate, with from 6-9 pairs of leaflets, and a terminal one; flowers capitate, bracteated; legumes curved upwards, p. 122.—Gravelly and sandy downs, and hedges, not unfrequent.

### 10. HIPPOCREPIS.

1. *H. comosa*, legumes 5-8, clustered, peduncled, curved, scabrous, sinuated on each margin, p. 123.—Rocks near the sea, occasionally.

## 11. TRIFOLIUM.

τ. Flowers racemose. (*Mellilotus*.)

1. *Tr. officinale*, stem erect; leaflets obovate, oblong, toothed; flowers racemose; legumes wrinkled, acute, pendent, 2-seeded, p. 123.—Fields and hedges, occasionally.

ττ. Flowers more or less capitate.

a. Legumes naked, many-seeded.

2. *Tr. repens*, stem creeping; leaflets obcordate, serrulate; fl. in umbellate heads; cal. teeth unequal; legumes 4-seeded, p. 123.—Fields, common.

3. *Tr. suffocatum*, fl. in lateral and terminal, roundish, sessile heads; cal. teeth lanceolate, acute, recurved, longer than the cor.; legume 2-seeded, p. 123.—Sandy situations, occasionally.

b. Legumes covered, 1-seeded.

1. Cor. whitish or reddish, standard deciduous.

4. *Tr. subterraneum*, involucre central, reflected, stiff, stellate, covering the fruit; heads 4-5-flowered, woolly, p. 124.—Sandy banks, occasionally.

5. *Tr. pratense*, stem ascending; leaflets ovate, sub-entire; stipules awned; heads dense, ovate; cal. the lower tooth shorter than the tube of the cor.; cor. monopetalous, unequal, p. 124.—Fields, common.

6. *Tr. medium*, stems branched, flexuose; leaflets elliptical, finely serrate; stipules awl-shaped; heads open, subglobose, solitary; cal. the lower tooth as long as the tube of the cor.; cor. monopetalous, nearly equal, p. 124.—Moist shady pastures, occasionally.

7. *Tr. arvense*, leaflets obovate, lanceolate; fl. in villose subcylindrical heads; cal. teeth setaceous, longer than the cor., p. 124.—Pastures, occasionally.

8. *Tr. scabrum*, leaflets obcordate, serrulate; fl. heads terminal and axillary, sessile, ovate; cal. teeth unequal, narrow, lanceolate, rigid, at length recurved, p. 124.—Sands, occasionally.

9. *Tr. glomeratum*, leaflets obcordate, toothed; heads terminal and axillary, sessile, spherical; cal. teeth unequal,

broad, at length recurved, p. 125.—On the sea-coast, occasionally.

10. *Tr. striatum*, leaves obcordate, sub-entire, pubescent; heads terminal and axillary, ovate, solitary, sub-sessile; cal. striate, hairy, with straight unequal teeth, p. 125.—Sea-coast, occasionally.

11. *Tr. fragiferum*, stem creeping; leaves obcordate, serrate; heads roundish, on long peduncles; cal. when in fruit, inflated, membranaceous, pubescent, teeth setaceous, 2 of them recurved, p. 125.—Banks near the sea, occasionally.

2. Cor. yellow, standard persistent, scarious, investing the fruit.

12. *Tr. procumbens*, stems procumbent; leaflets ob-ovate; spikes ovate, imbricate; cor. standard deflexed, sulcate, p. 125.—Pastures, frequent.

13. *Tr. minus*, stems procumbent; petioles lengthened upwards; leaflets ob-ovate; spikes capitate, hemispherical; peduncles stiff; cor. standard smoothish, p. 125.—Pastures, frequent.

14. *Tr. filiforme*, stems procumbent; leaflets sub-sessile; peduncles capillary, flexuose; heads lax, of a few flowers; standard smooth, p. 126.—Pastures, common.

## 12. LOTUS.

1. *L. corniculatus*, stems decumbent; heads depressed, many-flowered; legumes cylindrical, patent, p. 126.—Fields and hedges, common.

2. *L. diffusus*, stem decumbent, much branched; peduncles 1-2-flowered; legumes cylindrical, stiff, linear, very slender, p. 126.—Hedge banks, rare.

## 13. MEDICAGO.

1. *M. lupulina*, leaflets ob-ovate; stipules entire; spikes oval; legumes reniform, p. 126.—Fields, common.

2. *M. maculata*, leaflets obcordate, toothed, glabrous, with a central spot; stipules toothed; peduncles 2-4-flowered; legumes spiral, compressed on both sides, with subulate curved prickles, p. 126.—Along the southern coast.

# XLV. RHAMNEÆ.

## 1. RHAMNUS.

1. *R. catharticus*, spines terminal, leaves ovate, serrate; flowers dioecious, p. 42.

2. *R. frangula*, unarmed; leaves ob-ovate, entire; flowers perfect, p. 42.—Woods, occasionally.

## XLVI. CELASTRINÆ.

### 1. EUONYMUS.

1. *E. Europæus*, leaves ovate-lanceolate, petiolate; peduncles compressed, many-flowered; stamens mostly 4, p. 42.—Woods and hedges, frequent.

### 2. ILEX.

1. *I. aquifolium*, leaves ovate, acute, spinous, p. 30.—Woods and hedges, common.

## XLVII. HYPERICINÆ.

### 1. HYPERICUM.

τ. Cal. segments entire at the margin.

1. *H. androsæmum*, stem shrubby, compressed; leaves ovate, sessile; cal. leaflets unequal; fruit a berry, p. 127.—Woods and hedges, occasionally.

2. *H. quadrangulum*, stem quadrangular; leaves ovate, with pellucid dots; cal. leaflets lanceolate, p. 127.—Woods and hedges, common.

3. *H. perforatum*, stem compressed; leaves obtuse, with pellucid dots; cal. leaflets lanceolate, p. 127.—Woods and hedges, common.

4. *H. dubium*, stem obsoletely quadrangular; leaves obtuse, without dots; cal. leaflets elliptical, p. 127.—Hedgebanks, rare.

5. *H. humifusum*, stems prostrate, compressed; leaves oblong, obtuse; flowers terminal, subcymose; cal. leaflets obtuse, p. 127.—Hedges, &c. common.

τ τ. Cal. segments with glandular serratures.

6. *H. montanum*, stem erect, rounded, smooth; leaves ovate, glabrous; flowers in a paniced corymb; cal. leaflets acute, p. 128.—Woods and hedges, occasionally.

7. *H. hirsutum*, stem erect, rounded, pubescent; leaves ovate, downy beneath, p. 128.—In woods, occasionally.

8. *H. pulchrum*, stem erect ; leaves cordate, glabrous, amplexicaul, p. 128.—Woods and hedges, frequent.

9. *H. elodes*, stem rounded, creeping ; leaves roundish, pubescent ; cal. glabrous, p. 128.—Bogs, common.

## XLVIII. ACERACEÆ.

### 1. ACER.

1. *A. pseudo-platanus*, leaves 5-lobed, unequally serrate ; racemes pendulous, p. 69.—Hedges and plantations.

2. *A. campestre*, leaves irregularly 5-lobed, and cut ; racemes erect, p. 69.—Woods and hedges, frequent.

## XLIX. TILIACEÆ.

### 1. TILIA.

1. *T. Europæa*, leaves cordate, acuminate, serrate ; nectary none ; pericarp ribbed, woody, p. 91.—In avenues, &c. in various parts of the county.

## L. MALVACEÆ.

### 1. LAVATERA.

1. *L. arborea*, stem erect ; leaves with about 7 angles, downy, plaited ; peduncles axillary, clustered, 1-flowered, p. 117.—Near the sea, occasionally.

### 2. MALVA.

1. *M. sylvestris*, stem herbaceous, erect ; leaves 7-lobed, lobes acute ; petioles and peduncles hairy, p. 117.—Hedges and waste places, common.

2. *M. rotundifolia*, stem prostrate ; leaves roundish, cordate, slightly 5-lobed ; peduncles declining, p. 117.—Waste places, not unfrequent.

3. *M. moschata*, stem erect ; root leaves reniform, cut, stem leaves 5-parted, pinnately multifid ; cal. hairy, outer leaflets linear, p. 117.—Meadows and hedges, frequent.



## LI. GERANIACEÆ.

### 1. ERODIUM.

1. *E. cicutarium*, stem prostrate, hairy; leaves pinnate; leaflets sessile, pinnatifid, and cut; peduncles many-flowered; petals longer than the cal., p. 115.—In waste sandy places, frequent.

2. *E. moschatum*, stem prostrate, hairy; leaves pinnate, shortly petioled, oblong, deeply toothed; peduncles many-flowered; petals as long as the cal., p. 115.—Along the southern coast.

3. *E. maritimum*, stem depressed; leaves cordate, deeply crenate; peduncles 2-4-flowered, p. 115.—Along the southern coast, frequent.

### 2. GERANIUM.

τ. Perennial: peduncles 2-flowered.

1. *G. phæum*, stem erect; cal. slightly awned; pet. waved; caps. keeled, hispid below, wrinkled above, p. 116.—Hedges, rare.

ττ. Annual; peduncles 2-flowered.

2. *G. lucidum*, leaves rounded, 5-lobed; cal. pyramidal, the angles raised and wrinkled; caps. furrowed, p. 116.—Hedges, walls, and waste places, common.

3. *G. Robertianum*, leaves ternate, and quinate; leaflets pinnatifid, their segments mucronate; cal. angular, hairy; caps. wrinkled, p. 116.—Hedges and waste places, common.

4. *G. molle*, leaves rounded, or reniform, lobed and cut, downy; pet. length of cal., notched; caps. transversely wrinkled, smooth; seeds smooth, p. 116.—Hedges and waste places, common.

5. *G. rotundifolium*, leaves rounded, or reniform, downy; pet. length of cal. entire; caps. not wrinkled, hairy; seeds punctate, p. 116.—Hedge banks, occasionally.

6. *G. pusillum*, leaves rounded, or reniform, 5-7 lobed;

lobes trifid; pet. notched; anthers 5; caps. not wrinkled, keeled, downy; seeds smooth, p. 116.—Hedges, frequent.

7. *G. dissectum*, leaves 5-parted, lobes 3 or many cleft, linear; peduncles shorter than the leaves; cal. awned; pet. notched, length of cal.; caps. not wrinkled, hairy; seeds punctate, p. 116.—Hedges and pastures, common.

8. *G. columbinum*, leaves 5-parted, lobes many-cut; segments linear; peduncles longer than the leaves; cal. awned; pet. notched, length of cal.; caps. not wrinkled, glabrous; seeds punctate, p. 117.—Dry pastures and hedges, not unfrequent.

## LII. OXALIDEÆ.

1. *O. acetosella*, root squamose; leaves all radical, ternate, obcordate, hairy; scape 1-flowered, p. 77.—Woods and hedges, common.

2. *O. corniculata*, stem spreading, branched; leaves ternate, obcordate, hairy; flowers single, or sub-umbellate, shorter than the petioles, p. 77.—A common weed in gardens, in different parts of the county.

## LIII. LINEÆ.

### 1. LINUM.

1. *L. usitatissimum*, stem erect, mostly solitary; leaves lanceolate, alternate; cal. leaflets ovate, acute, 3-nerved; petals crenate, p. 56.—In tillage-fields, frequent.

2. *L. angustifolium*, stems numerous, ascending; leaves alternate, linear-lanceolate, 3-nerved; cal. leaflets ovate, acuminate, 3-nerved, p. 56.—Fields and hedges, frequent.

3. *L. catharticum*, stem dichotomous above; leaves opposite, oblong; petals acute, p. 56.—Dry exposed pastures, common.

### 2. RADIOLA.

1. *R. millegrana*, p. 32.—Moist sandy, or gravelly situations.

## LIV. CARYOPHYLLÆ.

### DIV. I. CARYOPHYLLÆ.

#### 1. SAPONARIA.

1. *S. officinalis*, leaves ovate-lanceolate; cal. cylindrical, glabrous, p. 72.—Not frequent.

#### 2. DIANTHUS.

1. *D. armeria*, calycine scales lanceolate, downy, length of the tube; flowers clustered, fascicled, p. 72.—Hedges, occasionally.

#### 3. SILENE.

1. *S. inflata*, leaves ovate; cal. glabrous, veined, inflated; flowers paniced, p. 72.—Fields and way-sides, common.

2. *S. Anglica*, plant hirsute, viscous; flowers lateral, erect, alternate; caps. the lower ones spreading, reflexed, p. 73.—Fields and hedges in various parts of the county.

3. *S. acaulis*, stem very short; leaves linear, ciliate at the base; peduncles solitary, 1-flowered; petals slightly notched, crowned, p. 73.—High exposed downs, rare.

#### 4. LYCHNIS.

1. *L. flosculi*, petals 4-cleft, segments linear; caps. roundish, 1-celled, p. 73.—Moist pastures and swampy situations, frequent.

2. *L. dioica*, flowers dioecious; caps. 1-celled, p. 73.—Hedges, woods, &c. common.

### DIV. 2. (ALSINÆÆ.)

#### 5. AGROSTEMMA.

1. *A. githago*, hairy; cal. much longer than the cor.; petals entire, destitute of a crown, p. 77.—Corn-fields, common.

#### 6. SAGINA.

1. *S. procumbens*, perennial, glabrous; stems procumbent; leaves shortly mucronate; petals much shorter than the cal.;

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caps. longer than the cal., p. 32.—Walls and dry sandy situations, common.

2. *S. apetala*, annual, subpubescent; stems erect; leaves aristate; pet. much smaller than the cal., p. 32.—Dry gravelly, or heathy situations, frequent.

**7. MCENCHIA.**

1. *M. glauca*, p. 32. Heathy downs, occasionally.

**8. SPERGULA.**

1. *S. arvensis*, leaves whorled, with minute membranaceous stipules at the base; fruit-stalk deflexed; seeds margined, p. 78.—Tillage fields, frequent.

2. *S. nodosa*, leaves opposite, subulate, glabrous, connate, the upper ones with clusters of young leaves in the axils; petals much longer than the cal., p. 79.—In wet, sandy, or gravelly situations, frequent.

3. *S. subulata*, leaves opposite, subulate, awned; peduncles solitary, very long; petals and caps. as long as the cal., p. 79.—Not frequent.

**9. CERASTIUM.**

τ. Petals not longer than the calyx.

1. *C. vulgatum*, hairy, rather viscid, sub-erect; leaves ovate, obtuse; flowers subcapitate, longer than their pedicels, p. 77.—Road-sides, pastures, &c. common.

2. *C. viscosum*, hairy, viscid, spreading; leaves oblong-lanceolate; flowers somewhat paniced, shorter than their pedicels, p. 78.—Fields and waste situations, frequent.

3. *C. semidecandrum*, hairy, viscid, sub-erect; petals 4-5; stamens 4-5; fruit-stalks elongated, p. 78.—Sandy banks, occasionally.

τ τ. Petals longer than the calyx.

4. *C. aquaticum*, leaves cordate, upper ones sessile; flowers solitary; fruit pendulous, p. 78.—Banks of streams, occasionally.

**10. ARENARIA.**

τ. Without stipules.

1. *A. trinervis*, leaves ovate, acute, petiolate, mostly 3-

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nerved; flowers solitary; cal. rough on the keel, obscurely 3-ribbed, p. 74.—In damp shady situations, common.

2. *A. serpyllifolia*, leaves ovate, acute, sessile, roughish; cal. hairy, having its 3 outer leaflets 5-ribbed, p. 74.—Dry places, walls, &c. common.

3. *A. tenuifolia*, stem branched; branches supporting panicles; leaves subulate, acute; cal. 3-nerved; petals lanceolate, much shorter than the cal. p. 75.—Old walls, rare.

ττ. With stipules at the base of each pair of leaves.

4. *A. rubra*, stems prostrate; leaves linear, plane, somewhat fleshy, tipped with a minute bristle; caps. as long as the cal.; seeds compressed, angular, roughish, p. 75.—Sandy and gravelly soils, frequent.

5. *A. marina*, stem prostrate, semi-cylindrical, fleshy, not mucronate; caps. longer than the cal.; seeds compressed, smooth, with a broad membranaceous border, p. 75.—On the sea-coast.

## 11. STELLARIA.

1. *S. nemorum*, lower leaves petiolate, cordate; upper ones ovate, sessile; panicle dichotomous, pubescent, leafy. E. B. t. 42. Fl. Brit. 473.

HAB. Road between Moreton and Chudleigh, near Chudleigh Bridge, Hon. and Rev. W. Annealey.

Root creeping; stem 2-3 feet in length, weak, hollow, rounded, smooth below the commencement of the panicle; peduncles, when in fruit, deflexed. This plant, and *Cerastium aquaticum*, are very nearly allied, as stated in the First Part of the work, where the plant now described, was by mistake omitted.

2. *S. media*, stems procumbent, with a line of hairs on one side, alternately between each joint; leaves ovate; petals deeply bifid; stam. 5-10, p. 73.—Waste places, gardens, &c. common.

3. *S. holostea*, stem sub-erect; leaves lanceolate, acute, finely serrulate; sepals nerveless; petals obcordate, somewhat bifid, p. 73.—Woods and hedges, common.

4. *S. graminea*, stem sub-erect; leaves lanceolate, acute, entire; panicle branched, divaricate; sepals 3-nerved; petals with linear, deeply-bifid segments, p. 74.—Fields, hedges, and woods, common.

5. *S. uliginosa*, stem decumbent; leaves ovate-lanceolate,



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entire, with a callous tip; flowers in small irregular panicles; petals bifid, shorter than the calyx, p. 74.—Bogs and wet situations, common.

**12. POLYCARPON.**

1. *P. tetraphyllum*, p. 24.—Old walls, rare.

**LV. SEMPERVIVÆ.**

**1. COTYLEDON.**

1. *C. umbilicus*, leaves peltate, crenate; stem spiked, with racemes of pendulous flowers, p. 75.—Walls, roofs, hedges, &c. common.

**2. SEMPERVIVUM.**

1. *S. tectorum*, plant with spreading offsets; leaves fleshy, ciliate, p. 81.—Roofs of houses and old walls, occasionally.

**3. SEDUM.**

τ. Leaves plane.

1. *S. Telephium*, stem erect; leaves ovate, serrate; corymbs leafy, p. 75.—Hedges, occasionally.

τ τ. Leaves rounded.

2. *S. Anglicum*, leaves ovate, gibbous, fleshy, produced at the base; cyme bifid, p. 76.—In dry exposed situations, chiefly in the granite districts.

3. *S. acre*, leaves alternate, ovate, fleshy, gibbous, produced at the base; cyme trifid, leafy, p. 76.—Walls and roofs, common.

4. *S. sexangulare*, leaves rounded, patent, ternate; cyme trifid, leafy, p. 76.—Hedge banks, rare.

5. *S. reflexum*, leaves scattered, fleshy, subulate, produced at the base; flowers subcymose, p. 76.—Walls and roofs.

6. *S. rupestre*, leaves subulate, erect, upper ones arranged in 5 rows, crowded, those at the base scattered; flowers subcymose, p. 76.—Rocks near the sea, occasionally.

**LVI. PORTULACEÆ.**

**1. MONTIA.**

1. *M. fontana*, p. 24.—Watery places, common.

## LVII. DROSERACEÆ.

## 1. DROSERA.

1. *D. rotundifolia*, leaves radical, orbicular, petiolate, spreading; scape bearing a simple raceme, p. 56.—In wet boggy situations, frequent.

2. *D. longifolia*, leaves radical, ob-ovate, tapering below into a long, erect peduncle; scape with a simple raceme, p. 56.—In similar situations with the former.

## LVIII. CISTEÆ.

## 1. CISTUS.

1. *C. helianthemum*, shrubby, procumbent; leaves oblong, revolute, pubescent beneath, their margins slightly revolute; stipules lanceolate; petals entire, p. 91.—Open downs, occasionally.

2. *C. polifolius*, shrubby, procumbent; leaves oblong, revolute, pubescent beneath; stipules lanceolate; petals, crenulated, p. 91.—Cliffs near the sea, occasionally.

## LIX. VIOLACEÆ.

## 1. VIOLA.

## τ. Stipules undivided.

1. *V. hirta*, stemless; leaves cordate, they, as well as the petioles and capsules, rough with hairs; cal. obtuse, p. 38.—Pastures, occasionally.

2. *V. odorata*, stemless, stoloniferous; leaves cordate, they and the petioles smooth; cal. obtuse, p. 38.—Banks and hedges, frequent.

3. *V. palustris*, stemless; leaves reniform, smooth; cal. obtuse, p. 39.—In boggy situations, frequent.

4. *V. canina*, stem, at length ascending, channelled; leaves cordate; stipules dentato-ciliate; cal. acute, p. 39.—Woods and hedges, common.

ττ. Stipules deeply divided.

5. *V. tricolor*, stem angular, branched, spreading; leaves oblong, deeply crenate; stipules lyrate, pinnatifid, p. 39.—In tillage fields, frequent.

## LX. POLYGALEÆ.

### 1. POLYGALA.

1. *P. vulgaris*, stem procumbent; leaves linear-lanceolate; flowers in a terminal raceme; cal. with 2 of the leaflets wing-shaped, longer than the cor., p. 119.—Dry hilly pastures, common.

## LXI. CRUCIFERÆ.

### DIV. 1. SILICULOSÆ.

#### 1. CAKILE.

1. *C. maritima*, leaves pinnatifid, slightly toothed, fleshy; pouch jointed, the joints 2-edged, the upper one sagittate, p. 107.—Along the sea-coast, frequent.

#### 2. CRAMBE.

1. *C. maritima*, stem glabrous; leaves roundish, sinuated, waved, toothed, glaucous, and glabrous; filam. the 4 larger ones forked; pouch jointless, p. 107.—Frequent on the sea-coast.

#### 3. CORONOPUS.

1. *C. Ruellii*, pouch undivided, crested with small spines, p. 107.—Waste places, frequent.

2. *C. didyma*, pouches didymous, reticulately wrinkled, not crested, p. 108.—Hedges, frequent.

#### 4. THLASPI.

1. *Th. arvense*, stem branched above, leaves oblong, sagittate, toothed, glabrous; pouch orbicular, its wings dilated, longitudinal; seeds concentrically striate, p. 108.—Fields and hedges, frequent.

2. *Th. alpestre*, stem simple; leaves, of the root ovate, of the stem cordate, sagittate; pouch obovate, retuse, p. 108.—Fields, occasionally.

3. *Th. Bursa-pastoris*, root leaves pinnatifid ; pouch obcordate, without wings, p. 108.—Waste places, &c. common.

#### 5. TEESDALIA.

1. *T. nudicaulis*, p. 108.—Dry hedges, chiefly in a sandy soil, frequent.

#### 6. LEPIDIUM.

1. *L. campestre*, stem leaves sagittate, toothed ; style, length of the notch ; pouch ovate, emarginate, winged, glandularly dotted, p. 109.—Hedges, &c. frequent.

2. *L. hirtum*, stem leaves sagittate, toothed ; style half the length of the pouch ; pouch ovate, emarginate, glabrous, winged, p. 109.—Hedges, occasionally.

#### 7. COCHLEARIA.

1. *C. officinalis*, root-leaves petiolate, reniform, stem leaves sessile, oblong, sinuate ; pouch globose, p. 109.—Salt marshes, and on the sea-coast.

2. *C. Danica*, leaves all petiolate, deltoid ; pouch elliptical, p. 109.—Sea-coast, frequent.

3. *C. Anglica*, root leaves ovate, stem leaves lanceolate, dentate ; pouch elliptical, p. 109.—Salt marshes.

4. *C. armoracia*, root leaves oblong, crenate, stem leaves lanceolate, serrate, or entire, p. 109.—Ditches, occasionally.

#### 8. DRABA.

1. *D. verna*, leaves lanceolate, slightly serrate, hairy ; scape naked ; petals 2-cut, p. 110.—Dry hedges and walls, common.

### DIV. 2. SILIQUOSÆ.

#### 9. CARDAMINE.

1. *C. pratensis*, leaves pinnate ; radical leaflets roundish, dentate, those of the stem lanceolate ; style straight ; stigma capitate, p. 110.—Wet places, common.

2. *C. hirsuta*, leaves pinnate, without stipules ; leaflets petiolate, radical ones roundish, upper ones ovate ; stamens 4-6, length of the petals ; stigma sub-sessile, p. 110.—Waste places, common.

#### 10. ARABIS.

1. *A. hispida*, root leaves sinuate, lyrate, on long petioles ;

stem leaves mostly undivided, glabrous; peduncles, in fruit, spreading, half the length of the pods, p. 110.—Exposed downs, occasionally.

2. *A. thaliana*, stem branched; leaves subdentate, hairy, those of the root subpetiolate, oblong; stamens length of the petals; pods ascending, p. 110.—Walls and dry hedge banks, common.

3. *A. hirsuta*, leaves hispid, toothed, cauline ones semi-amplexicaul; pods straight, p. 111.—Rocky places, occasionally.

#### 11. BARBAREA.

1. *B. vulgaris*, lower leaves lyrate, the terminal lobe rounded; upper leaves ob-ovate, toothed, p. 111.—Waste places and hedges, frequent.

2. *B. præcox*, lower leaves lyrate; upper leaves pinnatifid, their segments linear, oblong, entire, p. 111.—Hedges, occasionally.

#### 12. NASTURTIIUM.

1. *N. officinale*, leaves pinnate, leaflets obovate, subcordate, sinuate, dentate, p. 111.—Brooks and springy ground, common.

2. *N. sylvestre*, leaves pinnate, leaflets lanceolate, cut or serrate, p. 111.—Brooks, occasionally.

3. *N. terrestre*, root fusiform, leaves lyrate, pinnatifid, toothed, glabrous; petals the length of the calyx, p. 112.—Beside streams, occasionally.

4. *N. amphibium*, root fibrous; leaves oblong, pinnatifid, or serrate; petals larger than the calyx, p. 112.—By streams, occasionally.

#### 13. SISYMBRIUM.

1. *S. officinale*, stem hispid; leaves runcinate, hairy; pods subulate, downy, pressed close to the stalk, p. 112.—Waste places, &c. common.

2. *S. Sophia*, leaves doubly pinnate; leaflets linear, terminal one longest; petals shorter than the calyx, p. 112.—Waste places, occasionally.

#### 14. ERYSIMUM.

1. *E. cheiranthoides*, leaves lanceolate, entire, or slightly toothed, with 3-parted, stellate hairs; peduncles spreading;



stigma undivided; pods sub-erect, p. 112.—Hedges, occasionally.

2. *E. alliaria*, leaves cordate, petiolate, toothed, p. 112.—Hedges, common.

#### 15. CHEIRANTHUS.

1. *Ch. fruticosus*, stem shrubby, branched, angular; leaves lanceolate, acute, hairy beneath, pubescence simple, pressed close, p. 113.—Old walls, frequent.

#### 16. MATTHIOLA.

1. *M. sinuata*, leaves cottony, lower ones sinuate, upper ones entire; pods compressed, prickly, p. 113.—Rocks near the north coast.

#### 17. BRASSICA.

1. *Br. napus*, root fusiform, caulescent; leaves smooth, lower ones lyrate, toothed, upper ones cordate, lanceolate, amplexicaul, p. 113.—Tillage fields, occasionally.

2. *Br. rapa*, root caulescent, orbicular, depressed, fleshy; root leaves lyrate, scabrous, stem leaves entire, p. 113.—Tillage fields.

3. *Br. oleracea*, root caulescent, rounded, fleshy; leaves glabrous, glaucous, waved, lobed, p. 113.—Cliffs on the sea-coast.

4. *Br. campestris*, root and stem slender; leaves cordate, acuminate, amplexicaul. lower ones lyrate, toothed, sub-hispid, p. 113.—Hedges, occasionally.

#### 18. SINAPIS.

1. *S. arvensis*, leaves ovate, sub-lyrate; pods many-angled, turgid, knotty, longer than their 2-edged beak, p. 114.—Tillage fields, common.

2. *S. alba*, leaves pinnatifid; pods hispid, rugged, shorter than their 2-edged beak, p. 114.—Tillage fields, frequent.

3. *S. nigra*, upper leaves linear, lanceolate, glabrous, entire style short, subulate; pods appressed, glabrous, 4-sided, p. 114.

4. *S. tenuifolium*, stem glabrous; leaves lanceolate, pinnatifid, or bi-pinnatifid, lobes very acute; peduncles spreading; pods linear, glabrous, erect, shortly beaked, p. 114.—Old walls, rare.

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19. RAPHANUS.

1. *R. raphanistrum*, leaves simply lyrate; pods 1-celled, jointed, striate, p. 114.—Tillage fields, occasionally.

2. *R. maritimus*, leaves interruptedly lyrate; pods 1-celled, jointed, striate, p. 114.—On the sea-coast.

LXII. FUMARIÆ.

1. FUMARIA.

τ. Pouch roundish, indehiscent, 1-seeded. (*Fumaria*.)

1. *F. officinalis*, stem branched, spreading; leaves bi- or tri-pinnate, leaflets wedge-lanceolate, p. 118.—Hedges, tillage fields, &c. frequent.

2. *F. capreolata*, stem with tendrils, climbing; leaves tri-ternate, leaflets ob-ovate, wedge-shaped, lobed and cut, p. 118.—Frequent in hedges.

ττ. Pod elongated, 2-valved, dehiscent, 2 or more seeded.  
(*Corydalis*.)

3. *F. claviculata*, stem climbing, branched; petioles ending in tendrils; leaflets 3-5 parted, their lobes ovate, acute, p. 118.—Woods and amongst rocks, frequent.

4. *F. lutea*, stem angular; bractæ minute; cor. with a very short, round spur, p. 118.—Hedges, occasionally, scarcely wild.

LXIII. PAPAVERACEÆ.

1. PAPAVER.

τ. Capsules hispid.

1. *P. hybridum*, stem leafy, many-flowered; caps. nearly globular, torose, p. 89.—Cliffs on the southern coast.

2. *P. argemone*, stem leafy, many-flowered; caps. clavate, p. 90.—Fields and hedges, frequent.

ττ. Capsules glabrous.

3. *P. dubium*, stem many-flowered, hairy; leaves pinnatifid; peduncles with appressed bristles; caps. oblong, p. 90.—Corn fields, frequent.

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4. *P. rhæas*, stem many-flowered, hairy; leaves pinnatifid; peduncles with spreading bristles; caps. subglobose, p. 90.—Corn-fields and hedges, common.

5. *P. Cambricum*, stem many-flowered, nearly glabrous; leaves pinnate, leaflets petiolate, ovate-lanceolate, cut; caps. oblong, p. 90.—Woods, occasionally.

### 2. CHELIDONIUM.

1. *Ch. majus*, p. 89.—Hedges, frequent.

### 3. GLAUCIUM.

1. *G. luteum*, stem glabrous; cauline leaves amplexicaul, sinuated; peduncles 1-flowered, p. 89.—Sea-coast, frequent.

## LXIV. NYMPHÆACEÆ.

### 1. NYMPHÆA.

1. *N. alba*, leaves cordate; stigma of 16 ascending rays, p. 90.—Ponds and canals, scarcely wild.

### 2. NUPHAR.

1. *N. lutea*, leaves cordate, their lobes approximate; cal. with 5 leaflets; stigma expanded, with 14-20 rays, p. 91.—In streams, occasionally.

## LXV. BERBERIDEÆ.

### 1. BERBERIS.

1. *B. vulgaris*, spines 3-forked; leaves ob-ovate, ciliato-serrate; racemes pendulous, p. 63.—Hedges, occasionally.

## LXVI. RANUNCULACEÆ.

### 1. CLEMATIS.

1. *C. vitalba*, stem climbing; leaves pinnate, leaflets cordate, ovate, deeply toothed; peduncles shorter than the leaves, p. 92.—Hedges, frequent, especially in a calcareous soil.

2. THALICTRUM.

1. *Th. minus*, leaves tripinnate, leaflets trifid, glaucous; flowers panicled, drooping, p. 92.—Cliffs near the sea.

2. *Th. flavum*, stem erect, branched, furrowed; leaves bipinnate, leaflets trifid, wedge-shaped; panicle much branched, subcorymbose; flowers erect, p. 92.—Pastures, rare.

3. ANEMONE.

1. *A. nemorosa*, stem 1-flowered; leaves ternate, lobed and cut; involucre similar, petiolate; caps. awnless, p. 92.—Damp woods, and shady banks of streams, frequent.

4. RANUNCULUS.

1. Cal. 5-leaved; petals 5; pericarps mucronate. (*Ranunculus*.)

τ. Petals white; pericarps transversely wrinkled.

1. *R. aquatilis*, stem floating, submersed; leaves capillaceous, multifid, floating ones 3-parted, their lobes cut; petals larger than the calyx, p. 93.—In streams, frequent.

2. *R. hederaceus*, stem creeping; leaves roundish, reniform, with 3-5 rounded, entire lobes; petals about the size of the calyx; stamens 5-12; Pericarps glabrous, p. 93.—Watery places, common.

ττ. Petals yellow; pericarps smooth.

3. *R. flammula*, stem declined, rooting at the base; leaves linear-lanceolate, sub-entire, petiolate, the lower ones ovate-lanceolate, p. 93.—Wet situations, common.

4. *R. auricomus*, leaves glabrous, radical ones reniform, 3-parted and cut; stem leaves divided to the base in linear, subdentate segments; cal. pubescent, shorter than the petals, p. 94.—Woods and pastures, occasionally.

5. *R. sceleratus*, leaves glabrous, radical ones 3-parted, petioled, lobes obtusely cut, upper leaves in 3 linear segments; cal. glabrous; pericarps in one oblong spike, p. 94.—Marshy situations.

6. *R. acris*, leaves 3-parted, their segments acute, trifid, and cut, upper ones linear; peduncles rounded; calyx spreading, p. 94.—Pastures, common.

7. *R. repens*, plant with creeping runners; leaves pinnately 3-cut, segments 3-lobed, wedge-shaped, deeply toothed; pe-

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duncles furrowed ; calyx spreading, p. 94.—Pastures, common.

8. *R. bulbosus*, root bulbous ; stem erect, many-flowered ; leaves divided into 3 petiolate leaflets, which are 3-lobed, or 3-parted, and cut ; peduncles furrowed ; calyx reflexed, p. 94.—Pastures, common.

τ τ τ. Petals yellow ; pericarps tuberculate, or muricate.

9. *R. parviflorus*, stem prostrate ; leaves cordate, hairy, 3-lobed, toothed, or cut ; calyx size of the petals, becoming reflexed ; pericarps granularly tuberculate, p. 94.—Hedges and tillage-fields, frequent.

10. *R. arvensis*, stem erect, many-flowered ; leaves 3-cleft, their segments, mostly, again 3-cleft into linear, entire, or 2-3-toothed segments ; pericarps muricate, p. 95.—Corn-fields, occasionally.

11. *R. hirsutus*, root fibrous ; stem erect, hairy, many-flowered ; leaves 3-lobed, or 3-parted ; calyx reflexed ; pericarps margined and tuberculate, p. 95.—Hedges, rare.

2. Cal. 3-leaved ; pet. 9 ; pericarps smooth, obtuse. (*Ficaria*.)

12. *R. ficaria*, root of many small tubers ; stem 1-flowered ; leaves heart-shaped, angular, or crenate, petiolate, p. 93.—Pastures and hedges, common.

5. MYOSURUS.

1. *M. minimus*, p. 57.—Fields, rare.

6. HELLEBORUS.

1. *H. viridis*, stem leafy ; leaves digitate ; calyx spreading, p. 95.—Orchards, occasionally.

7. CALTHA.

1. *C. palustris*, leaves cordate, crenate, p. 95.—Marshes, common.

8. AQUILEGIA.

1. *A. vulgaris*, stem leafy, many-flowered ; leaves subglabrous ; spur of the petals incurved ; styles as long as the stamens ; caps. villous, p. 91.—Woods, frequent.



OF  
UNDETERMINED SITUATION.

CERATOPHYLLUM.

1. *C. demersum*. Fr. with 3 spines, p. 154.—In streams, rare.

We have omitted the order LILIACEÆ, containing *Tulipa sylvestris*, and MELANTHACEÆ, (of Brown) containing *Colchicum autumnale*, as we have doubts as to their being found in a really wild state in the county.

In concluding this second part, it may be useful to notice, that in grouping genera according to the natural method of arrangement, *all* the more important characters of a plant are taken into consideration, the chief of which are as follows:—

1. The structure of the embryo and cotyledons.
2. The albumen.
3. The insertion of the petals and stamens: these are said to be *hypogynous* when attached to the receptacle; *perigynous* when the petals are attached to the calyx, or the stamens to either; and *epigynous* when they are attached to the ovary or style.
4. The insertion of the ovule or seed: this may be either erect or suspended, variously attached or free.
5. The absence or presence of the corolla, and the number of its divisions, or petals.
6. The number of the stamens and styles: this is usually only considered in respect to its being definite or indefinite.

As to the relative merits of the artificial and natural methods, we may observe, that the former, by selecting one particular part of a plant, and arranging the genera according to their agreement in that particular, without regard to any other character, offers the same facility in reference to plants that a Dictionary, alphabetically arranged, does in assisting

us to the meaning of individual words. The LINNÆAN is by far the best of this kind ever proposed, because it is the simplest, and because, by fixing on those parts that are uniformly present, and, on the whole, most important in Phænogamous plants, it keeps together several of the great natural families; and, therefore, for the purpose above stated, viz. facility of reference, it is likely long to continue of indispensable utility to the study of that great natural division. In the natural method much yet remains to be accomplished; but embracing, as it does, the whole structure, habits, and affinities of plants, their relative importance and situation in the great system of nature—in short, the philosophy of the matter, its superior claims must be admitted by all who do not wish to pervert a useful and most pleasing science into a mere study of hard names.

## GEOGRAPHICAL DISTRIBUTION, &c.

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It will, perhaps, be desirable, in entering on this concluding portion of our volume, to take a short *general view* of vegetable geography, which forms so important a part of terrestrial physics, and with which the various forms of animal life are found in mutual dependence. The richness and peculiar features of the Flora of any given district depend chiefly on the nature and variety of climate that it possesses; or, in other words, that combination of temperature and moisture which characterizes the atmosphere, and which depends, in a great measure, on the following circumstances. 1. The direct power of the sun: this decreases as we recede on either hand from the equator, or ascend beyond the sea level. 2. The situation of the district in respect to the ocean; a proximity to which has a tendency to equalize the temperature. 3. Its general aspect, or quarter towards which its surface chiefly slopes; the power of the sun's rays depending on the angle at which they strike the ground. 4. The position and direction of mountain chains; these affect climate in various ways, such as by attracting and condensing the vapours in the atmosphere, by affording shelter from winds, by concentrating and reflecting the sun's rays in narrow coombes, &c. 5. The direction of the most prevalent winds, and the character of the regions they previously traverse. 6. The more or less perfect cultivation of the surface; a reclaimed district always enjoying a milder climate, (other circumstances being the same,) than an unreclaimed one; (an exception may be



made, perhaps, where the clearing away forests is carried to such an extent as to deprive a country of shelter, or lessen too much the quantity of moisture.) Lastly, the nature of the soil: some soils acquiring heat and retaining it longer, or reflecting it more readily than others. Those of a porous character, permitting the rain that descends on them to pass more freely downwards, emit fewer exhalations than those of a retentive character, that detain the water near the surface, and are usually of a higher temperature, &c. It may here also be proper to consider the quality of soil as regards its fertility, or adaptation to the support of vegetable life. This depends on the nature of the rock strata. It is always of *secondary* formation, as respects the rock on which it is incumbent, and may be considered as of two kinds, transported and untransported: to the latter belongs the soil of most grounds of any elevation; to the former, that in the bottoms of valleys, marshes, &c. As the chief portion of every productive soil is originally derived from the constituent elements of the rocks themselves, its depth and *character* must depend much on the differences in the aggregation and chemical nature of those inorganic particles. The disintegration of rocks, (a process constantly going on in nature,) is effected both by mechanical and chemical means, the two often acting together, and greatly assisting each other: water, both in the form of ice, and in a liquid and moving state—the roots of vegetables, which penetrate the fissures, and act as so many living wedges—and the laws of gravity acting on the loosened fragments, are the principal mechanical ones;—the oxygen of the air and of water is the principal chemical agent; its effects are produced by acting on those parts of the rock strata whose affinity for it is greater than for the other constituents; as iron pyrites, and oxidulous iron, and manganese. Water alone, or combined with carbonic acid, is also a chemical agent of some importance, as in the gypsum and other lime formations; Lichens, Mosses, and other Cryptogamous plants also assist in this process, by imbibing and retaining moisture, like a sponge: some of the former also

penetrate and corrode the rocks on which they grow, as the *Lecidea immersa*, and a few other species; the more simple of the organized forms thus preparing the way for the development of the more perfect and complex ones.

The fertility of the soil depends, 1. On the distance of the solid rock from the vegetable mould. 2. The depth and character of that mould, and of the sub-soil immediately beneath it. 3. The structure of the rocks and their cohesion; those that have the most compact structure, and most cohesive parts, being the least favourable to vegetable fertility. 4. The direction and inclination of the strata; those that are horizontal, being the least favourable, and those that are perpendicular, the most so, because the principal fissures admit the penetration of roots more easily in the latter than in the former case. 5. The degree of inclination of the surface; the horizontal being the most favourable on account of the stability of its vegetable mould; the greater the inclination, the greater being the tendency of losing the soil: on this account, the greatest declivity at which ground can be cultivated with any prospect of advantage, does not exceed an angle of  $30^{\circ}$ , and where the inclination exceeds  $40^{\circ}$ , rocks are usually destitute of soil and vegetation. But the investigation of all this, however interesting and important, belongs rather to agricultural science, than to our present subject. There are but few plants, and those only in a qualified sense, that can be said to be confined exclusively to any particular kind of soil: as the *Ericæ*, *Vaccinæ*, and *Droseracæ*, to a peaty soil; *Phyteuma*, *Hedysarum*, and a few others, to chalk; but temperature, as we before stated, is that which chiefly influences the vegetable character of a district: the relative proportions of the different Natural families altering as we advance towards, or recede from, the equator; and the absolute number, both of families and species, decreasing with the temperature. The principal families whose ratio increases from the equator towards the pole, are the GLUMACEOUS and AMENTACEOUS plants, and the ERICINÆ; those that decrease in that direction, are the LEGUMINOSÆ, RUBIACÆ, EUPHOR-



BIACEÆ, and MALVACEÆ; whilst the COMPOSITÆ, LABIATÆ, UMBELLIFERÆ, and CRUCIFERÆ, seem to attain their maximum in the temperate zone. The proportion of Monocotyledonous plants to Dicotyledonous ones also appears to increase pretty regularly from the equator to about the 69° of north latitude, when it probably again decreases. Brown states the proportion to be as 1 to 3,6 in the British Isles; and, according to Humboldt, it is in Germany as 1 to 4; in Switzerland as 1 to 4,3; and in France and Italy as 1 to 4,7. The latter calculates the mean state of vegetation in the most fertile portion of Europe, in the centre of the temperate zone, on an extent of surface amounting to 30,000 square leagues, to be as follows: nearly 6000 species of plants are nourished in this space, of which 2200 are Acotyledonous or Cryptogamous, and 3800 Phænogamous: of the latter, nearly 500 are COMPOSITÆ, 300 GRAMINEÆ, 250 LEGUMINOSÆ, 200 CRUCIFERÆ, 70 AMENTACEÆ, and 50 EUPHORBIACEÆ; the great families forming from one-seventh to one-twentieth each, and the smaller less than one-fiftieth each of the total mass of Phænogamous plants. But to pursue those calculations farther, would be entering on too wide a field; we shall, therefore, limit ourselves to the more immediate object we have in view, after premising, that such is the uniformity of nature, that when we know for any given place the number of species of any great natural family, we may estimate, with considerable probability, both the whole number of Phænogamous plants, and the number of species that compose the other vegetable families.

Devonshire is included within 50° 13' and 51° 13' north latitude, and 2° 50' and 4° 30' west longitude; its greatest extent in a north and south direction being about seventy miles, and in an east and west line sixty-five. Situated between the Bristol and the British Channels, it possesses a coast line on the former of about fifty-five miles, and on the latter of eighty-five miles, after rejecting the prominent headlands and inlets, or indented coves, not exceeding a mile in

their breadth of openings : in form it is nearly rhomboidal, and includes a surface territory of about 2500 square miles, of which the Forest of Dartmoor forms the most elevated portion, the highest part of it, Cawsand Beacon, being 1792 feet above the sea level, and the mean height of the moor itself upwards of 1700 feet. There is, perhaps, no county in the kingdom that presents a more diversified appearance than Devon, owing to the great variety of soil and inequality of surface that it possesses, and which is *geologically* divided according to the different rock strata, as follows.

1. The Granite district : this occupies the central and most elevated portion of the county ; it includes the whole forest of Dartmoor, as well as many large parishes immediately round that extensive royalty. The general character of the soil in this district is either sandy or peaty, more frequently a mixture of both ; it includes what may be considered, on the whole, as the least fertile portion of the county : nevertheless, it can boast of many sheltered coombes and wide extended vales, that have a kindly productive soil, and possess considerable beauty and fertility. To the botanist it is, perhaps, the most interesting portion of the county, the wildest and most exposed parts of it yielding him a rich harvest of *Cryptogamous plants*, that he might in vain search for elsewhere. 2. The Slate district : this rests immediately on the granite, and slopes away from it on either hand, its highest elevations seldom exceeding 11 or 1200 feet ; it occupies an extensive part of the surface both in the northern and southern parts of the county, and possesses very various degrees of fertility ; the primitive and more elevated portions of it contiguous to the granite have often but a scanty and meagre soil, and considerable tracts are consequently left in an unreclaimed state, serving merely as a run for cattle and sheep ; whilst a great portion of that farther removed from the granite, and of a less elevated character, and which is a transition rock, possesses an open and crumbly texture, extremely favourable to vegetation. Some portions of the north of Devon, and the Southams in the south-eastern part of the county, can be ex-



ceeded by few tracts in the kingdom, in the uniform luxuriance of their appearance. Occasional tracts of stiff cold clay, of which the Bovey Heathfield furnishes an example, also occur in this district. 3. Transition Limestone: of this rock there are several detached portions scattered through the county, the principal being that situated in the southern part of it, between Torbay and Plymouth: it seldom reaches a greater elevation than from 2 to 300 feet, and possesses, on the whole, a less luxuriant vegetation than the better parts of the slate district, the soil being often thin and scanty, and too near the solid rock, so that the herbage grows dwarfy, and is apt to burn: there are, however, considerable exceptions to this, as is the case in all the other districts. 4. Red Sand-stone: this is the most uniformly fertile and luxuriant tract in the county: the principal portion of it is that which forms what is usually termed the Clist district, immediately around Exeter; and which, stretching from thence through the valley of the Exe, round the base of Haldon on one side, occupies a considerable tract along the coast on to Torbay; and on the other, winds round the base of Woodbury and Peak-hills, forming the coast line of cliffs to and beyond Sidmouth; these seldom exceed from 150 to 200 feet in height. Lastly, the green sand of Haldon, Black Down, &c. and a few other more eastern tracts: these have often a stratum of chalk pebbles superincumbent on them, and have an elevation of from 6 to 900 feet. This formation, in respect to fertility, may be placed on a level with the poorer portions of the granite district. With all this variety in the rock strata, we know of no peculiar vegetable features by which to distinguish one formation from another: the *Cistea*, *Conyza squarrosa*, and one or two other plants, seem to affect the limestone; the *Clematis* also appears to grow more luxuriantly amongst the crevices of that rock than elsewhere; whilst the *Iris fatidissima* and the *Elm* prevail most in the red sand-stone: still neither these, nor any other species, so far as we are aware, are exclusively confined to any particular formation. The most striking local difference that *does* occur in the character of our Flora, and which only serves

to confirm this view, is that which results from a comparison of the plants growing along the extensive ranges of our sea-coast and cliffs with those of the more interior parts of the county: each of these tracts is distinguished by its own peculiar botanic features; but these exist independent of the nature of the strata, and we may trace the same plants frequently along the whole of our coast-line, whether the cliffs are sand-stone, lime-stone, or slate, all of which are found alternating with each other on our southern shores; and if we choose to push our investigation farther along those of Cornwall, we may still find them in the serpentine formation of the Lizard District, and in that part of the granite range that forms the rocks round the Land's End. Thus the most characteristic *Botanical* division of the county would be into the central inland portion, and those on either side of it that border on the sea. That there is a great difference not only between the mean annual temperatures of these tracts, but also a much greater variation in the mean temperatures of the different months of a year in the former than in the latter, experience sufficiently proves: these differences arise from the elevation and exposure of the one, as well as the large extent of boggy and unreclaimed surface it includes, and the sheltered and cultivated state of the other, together with its proximity to the ocean; but we regret that we have no data, at present, sufficiently accurate and extensive to determine with precision the extent of these differences.

The whole number of Phænogamous plants (as far as our researches enable us to state them) that are spread over the extensive and diversified surface we have been endeavouring to describe, amounts to 774 species, belonging to 84 natural orders and arranged in 343 genera: of these, 15 orders, arranged in 59 genera, which contain 187 species, belong to the Monocotyledonous class; and 66 orders, containing 284 genera and 587 species, to the Dicotyledonous class: so that the number of species contained in the former class, as compared with the latter, is as 1 to 3, 2 nearly: the Monocotyledons thus forming rather less than one-fourth, and the Dicotyledons rather more than three-fourths, of the whole.

The proportions of the different Natural Orders as respects 1st, their own class, and 2ndly, the whole number of Phanogamous plants, are as follows:—

### I. MONOCOTYLEDONOUS CLASS.

	No. of species in each order.	Relative proportions of its own class.	Ditto of whole Phanogamous plants.
GRAMINEÆ . . .	74 . . .	$\frac{2}{5}$ between $\frac{1}{10}$ & $\frac{1}{11}$	
CYPERACEÆ . . .	48 . . .	$+\frac{1}{4}$	$-\frac{1}{6}$
JUNCEÆ . . .	16 . . .	$+\frac{1}{12}$	$-\frac{1}{8}$
ORCHIDEÆ . . .	13 . . .	$+\frac{1}{14}$	$-\frac{1}{60}$
FLUVIALES . . .	10 . . .	$-\frac{1}{9}$	$-\frac{1}{77}$
AROIDEÆ . . .	8 . . .	$+\frac{1}{23}$	$+\frac{1}{97}$
ASPHODELIÆ . . .	5 . . .	$-\frac{1}{37}$	$\frac{1}{155}$
The remaining 8 Orders of the Monocotyledo- nous Class together .			
	13 . . .	$-\frac{1}{14}$	$-\frac{1}{60}$

### II. DICOTYLEDONOUS CLASS.

COMPOSITE . . .	72 . . .	$-\frac{1}{8}$ between $\frac{1}{10}$ & $\frac{1}{11}$	
CRUCIFERÆ . . .	44 . . .	$-\frac{1}{13}$	$\frac{1}{17}$ & $\frac{1}{18}$
LEGUMINOSÆ . . .	39 . . .	$\frac{1}{15}$	$+\frac{1}{20}$
UMBELLIFERÆ . . .	37 . . .	$+\frac{1}{18}$	$+\frac{1}{21}$
ROSACEÆ & POMACEÆ . . .	36 . . .	$-\frac{1}{16}$	$-\frac{1}{21}$
LABIATÆ . . .	35 . . .	$+\frac{1}{17}$	$-\frac{1}{22}$
SCROPHULARINÆ and OROBANCHEÆ . . .	} 31 . . .	$\frac{1}{19}$	$\frac{1}{23}$
CARYOPHYLLÆ and LINEÆ . . .		$\frac{1}{19}$	$\frac{1}{23}$
CORYLACEÆ and SALI- CINÆ . . .	} 28 . . .	$\frac{1}{21}$	$+\frac{1}{28}$
RANUNCULACEÆ . . .		$-\frac{1}{29}$	$+\frac{1}{39}$



	No. of species in each order.	Relative proportions of its own class.	Ditto of whole Phænogamous plants.
POLYGONÆ . . .	18 . . .	$+\frac{1}{33}$ . . .	$+\frac{1}{43}$
CHENOPODEÆ . . .	15 . . .	$+\frac{1}{39}$ . . .	$+\frac{1}{52}$
BORAGINÆ . . .	13 . . .	$+\frac{1}{45}$ . . .	$+\frac{1}{60}$
PRIMULACEÆ & LEN- TIBULARIÆ . . .	} 13 . . .	$+\frac{1}{45}$ . . .	$+\frac{1}{60}$
GERANIACEÆ & OXA- LIDÆ . . .		$+\frac{1}{45}$ . . .	$+\frac{1}{60}$
RUBIACEÆ . . .	11 . . .	$-\frac{1}{53}$ . . .	$-\frac{1}{70}$
HYPERICINÆ . . .	9 . . .	$+\frac{1}{65}$ . . .	$+\frac{1}{86}$
SEMPERVIVÆ . . .	9 . . .	$+\frac{1}{65}$ . . .	$+\frac{1}{86}$
SOLANÆ . . .	8 . . .	$-\frac{1}{73}$ . . .	$-\frac{1}{97}$
EUPHORBIACEÆ . . .	8 . . .	$-\frac{1}{73}$ . . .	$-\frac{1}{97}$
PAPAVERACEÆ . . .	7 . . .	$+\frac{1}{84}$ . . .	$+\frac{1}{110}$
The remaining 39 Or- ders containing al- together . . .	} 110 between $\frac{1}{5}$ & $\frac{1}{6}$ . . .		$\frac{1}{7}$

Thus we see the GLUMACEÆ form very nearly two-thirds of their own class, and they and the COMPOSITÆ together constitute one-fourth of the whole of our Phænogamous plants; and the CRUCIFORM, LEGUMINOUS, UMBELLATE, ROSACEOUS, and LABIATED plants one-fourth more between them.

The Cryptogamous plants enumerated in our Flora amount altogether to 666 species, of which the natural orders LYCOPODINÆ, MARSILEACEÆ, EQUISETACEÆ, and CHARACEÆ, each contain but a single species; FILICES 22 species; MUSCI 174; HEPATICÆ 30; ALGÆ 147; LICHENS 141; and HYPOXYLA, FUNGI, &c. the remaining 148 species; making the total number of plants described, 1440 species.

The Flora of the whole of the British Isles contains about 1350 species of Phænogamous plants, of which about 370 are Monocotyledons, and 980 Dicotyledons: of these, the great natural families contain nearly as follows; GRAMINÆ 120 species, CYPERACEÆ 70, COMPOSITÆ 120, UMBELLIFERÆ,

**CRUCIFERÆ, LEGUMINOSÆ, and CARYOPHYLLÆ 60 each ; LABIATÆ and SCROPHULARINÆ 50 each ; RANUNCULACÆ 36;** the remainder being distributed amongst the smaller orders.

The principal genera belonging to the British Flora, of which we can boast no exemplars, after excluding

Stipa	Carum	Epimedium
Lagurus	Borago	Asarum
Cyperus	Alyssum	Staphylæa
Crocus	Isatis	Xanthium
Leucojum	Doronicum	Cyclamen
Echinophora	Calendula	Oenothera
Tordylium	Amaranthus	Chrysocoma
Imperatoria	Datura	

which have but a doubtful claim to rank as indigenous plants, and therefore, though we have habitats for some of them as undoubted as any, we have omitted noticing them, are,

Sesleria	Juniperus, 1	Sibbaldia
Hierocloe	Empetrum	Cherleria
Tofieldia	Selinum	Dryas
Anthericum	Ligusticum	Trollius
Eriocaulon	Pyrola, 5	Oxyria
Malaxis	Polemonium	Swertia
Corallorrhiza	Azalea	Trientalis
Cypripedium	Menziesia, 2	Impatiens
Goodyera	Andromeda	Linnæa
Convallaria, 4	Arbutus, 3	Rhodiola
Pinus, 1	Subularia	Erigeron, 2.
Taxus, 1	Hesperis	

These are for the most part confined to more northern or more alpine regions than ours, as is likewise the case with the greater part of the genus **SAXIFRAGA**, of about 12 British species of which we only possess one.

The greater part of the others are rare or local plants : we annex the situations where the chief of them are most generally found growing, to show the chances there may be of

finding them in a wild state in this county, and the likeliest places to search for them.

Names of genera.	Most usual localities.
Fritillaria.	Pastures, midland counties, local.
Paris.	Woods, eastern, and northern counties.
Hippuris.	Muddy ponds, rare.
Tillæa.	Dry heaths, Norfolk and Suffolk.
Hippophae.	Eastern coast.
Buffonia.	Heaths, rare.
Buxus.	Chalky hills.
Asperugo.	Old rubbishy places.
Hottonia.	Ponds.
Phyteuma.	Chalky pastures.
Atropa.	Eastern and northern counties.
Thesium.	Chalky cliffs and downs.
Herniaria.	Southernmost coast of Cornwall.
Athamanta.	Cambridge, local and rare.
Danaa.	Cornwall, ditto.
Cicuta.	By streams, eastern counties.
Tamarix.	Cornish coast.
Parnassia.	Wet pastures, Wales, and N. and E. counties.
Althæa.	Marshes near the sea.
Frankenia.	Salt marshes on the eastern coast.
Aristolochia.	Woods, &c. in several counties.
Monotropa.	Woods, parasitic on roots of trees, &c.
Comarum.	Bogs, north and eastern counties.
Actæa.	Woods, Yorkshire.
Delphinium.	Corn fields, &c.
Adonis.	Ditto, counties round London.
Stratiotes.	Slow streams, &c. eastern counties.
Sagittaria.	Ditto, Thames, &c.
Limosella.	Muddy places, occasionally flooded.
Lathræa.	Woods.
Astragalus.	Calcareous and hilly pastures.
Pisum.	Dorsetshire coast.
Lactuca, 3.	Borders of fields, &c.
Prenanthes.	Rocks and old walls.
Cineraria, 2.	1 species in marshes, 1 on hilly pastures.
Bryonia.	Hedges, &c. midland counties.

Except where the number of species is placed after the generic name, they each include but a single British one.

Amongst the genera belonging to our County Flora, the greatest deficiency will be found in the following; *Carer*, *Juncus*, *Veronica*, *Vaccinium*, *Rubus*, (of all these the species wanting are chiefly Alpine plants,) *Campanula*, *Dianthus*, *Silene*, *Salix*, (the species of this last genus, as we have elsewhere noticed, are in a very unsettled state.) To go into more minute details would, perhaps, be more tedious than instructive: we shall, therefore, conclude this part of our volume, by briefly noticing another view in which the vegetable features of a district may be contemplated; namely, the preponderance of particular families or species, which often almost exclusively occupy large tracts, and have as natural a tendency to encroach and extend themselves, as others have to remain scattered and unobtrusive. Thus, the grasses constitute an order the most widely and profusely spread of any; and the *furze* and *heath* may be instanced as species that often cover a large surface: the *oak* also may be observed spreading itself, to the exclusion of every thing else, along the sides of many of our coombes, both in the granite and slate formations. But this part of the subject having been carefully attended to in the former portion of the volume, any farther detail would be superfluous. Illustrations, on a grand scale, of what we have been here observing on, are still to be met with in many parts of the world, where the preponderance of certain families of plants, or even occasionally of single species, (of the *social* kinds,) not only give a peculiar and decided character to the landscape, but have also a powerful influence on the conditions and character of men; and though in countries long reclaimed and cultivated this has become less obvious, it remains to most of them a subject of considerable importance.



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Stereocaulon . . . . .	xi	44	Viscum . . . . .	l	164
Sticta . . . . .	xi	39	Weesia . . . . .	xix	88
Stromatosphæria . . . . .	viii	23	Xylaria . . . . .	viii	23
Symphytum . . . . .	xlvi	151	Xyloma . . . . .	viii	25
Tamus . . . . .	xxviii	129	Zannichellia . . . . .	xxiii	113
Tanacetum . . . . .	xlvi	158	Zonaria . . . . .	xv	59
Targionia . . . . .	xvii	80	Zostera . . . . .	xxii	113
Teesdalia . . . . .	lxiv	188	Zygnema . . . . .	xiii	50
Tetraphis . . . . .	xviii	84			
Teucrium . . . . .	xxxviii	143			
Thalictrum . . . . .	lxvi	193			
Thelephora . . . . .	vi	19			

## ADDENDA ET CORRIGENDA.

### PART I.

#### In Arrangement of Genera,

- P. xliii. Character of *Kobresia* omitted here, will be found at p. xxiv. of the Second Part.

#### In Arrangement of Species,

- P. 7. Insert, in the first subdivision of genus *Scirpus*, "τ. Culm simple."  
P. 28. *Plantago lanceolata*, in the reference to E. Bot. for "t. 175," read "t. 507."  
P. 64. In the Sp. Char. of *Rumex aquaticus*, omit the words "of the perianth," in the second line.  
P. 74. In the Sp. Char. of *Arenaria trinervis*, for "heel," read "keel."  
P. 153. *Kobresia caricina*, in reference to E. Bot. for "t. 20," read "t. 1410."  
P. 160. *Populus canescens*, after Sp. Char. add "E. B. 1619."

### PART II.

In the Arrangement of the Species, the following have been inadvertently omitted,—*Acorus*, *Adenarium*, *Exacum*, *Helminthia*, *Poterium*, *Santolina*, *Triodia*;—their proper situation in the system will be found by referring to the Arrangement of the Orders and Genera, and their specific characters in their proper places, in the First Part of the work.

- P. 181. Insert "1. OXALIS."









